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ABSTRACT

The program is a generalized model which provides a blueprint for the development and implementation of a training program for evaluators and researchers in all aspects of education. As the program develops, it will be expanded to include personnel in educational development and diffusion. Noteworthy features include 1) a focus on effecting change in education, 2) self-renewal and self-correction, 3) a multi-agency client-centered training effort, 4) a multi-disciplinary base, 5) the training of personnel at three distinct competency levels, 6) internship and on-the-job experiences, 7) a modularized curriculum, 8) transportability of the program, 9) training for cooperation and interdependence, and 10) an economically feasible career ladder for educational personnel. The consortium constituents include institutions of higher education, public schools, the educational industry, and governmental agencies. The report contains details of the program specifications, including module objectives, an example of the SCERT element and of a detailed module, the support systems, measurement and evaluation procedures, and the computerized monitor-evaluation support system (MESS). The budget is set out in detail and an appendix includes a description of the evaluation and research training capability of SCERT, a list of participants, and information on key personnel. (MBM)

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FINAL REPORT

Project No. 0-9038

Contract No. OEC-0-70-4767

PROGRAM DESIGN
for
SYRACUSE CENTER FOR EVALUATION AND RESEARCH TRAINING
(SCERT)

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with assistance of

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December 1970

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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Bureau of Research

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I. OVERVIEW OF THE PROGRAM

The Syracuse Center for Evaluation and Research Training (SCERT), as its name indicates, will concentrate on the training of personnel in education who will be evaluators and researchers.

The term "evaluation" refers to those problem solving strategies "characterized by a coordinated set of activities which produce trustworthy information in support of on-line decision making, that is observations, reports, and data derived through formal or informal measures which are presented to decision makers in a format and within a time line which permits its utilization in the decision making process" (Schalock and Sell, 1970). According to the above definition, a number of activities bearing various labels would fall under the rubric of evaluation. The terms "planning" and "policy making" or "policy formulation" are two such labels that we construe as aspects of evaluation and are part of the SCERT program.

Educational research can be defined as "a problem-solving strategy characterized by a coordinated set of activities which produce reliable knowledge, that is, facts, principles, generalizations, theories, and laws that can stand the test of empirical verification" (Schalock and Sell, 1970). While the distinction between basic and applied research has been none too clear at times, the research emphasis of SCERT program is located more toward the applied end of the basic-applied continuum and is designed to train individuals who are mission-oriented and can produce knowledge relevant to providing generalizable solutions to general educational problems.

The program described in this report is a generalized model that is intended to provide a blueprint for the development and implementation of a training program for evaluators and researchers and in that sense is exportable. That is to say, the program is not a blueprint for the preparation of evaluators and researchers for "educationally disadvantaged" or "early childhood education" as such. It is a program designed to be adaptable for the preparation of evaluators and researchers for all aspects of education. The program is also intended to be flexible enough to be adaptable to the unique focus of several types and levels of institutions and agencies concerned with the preparation and utilization of evaluation and research personnel in education. It is the intent of this program to begin with the training of evaluators and researchers, and as the program develops, to expand it to include personnel in educational development and diffusion. This intent is not merely wishful thinking on our part. The construction, installation, and acceptance of the program are development and diffusion activities in and of themselves and as such will provide opportunities for a number of development and diffusion personnel to gain valuable experience and insight into these areas. In the main, however, the major focus of SCERT in its initial phase will be on evaluation and applied research training to effect educational change.

The concentration of the program on evaluation and research reflects the needs and capabilities of the consortium members in particular and the nation's needs in general. The Federal Government has frequently used short-contracted projects as the mechanism for influencing education. At times these contracted projects may be very large jobs like the nationwide evaluation of Head Start by Westinghouse in 1968, or the evaluation of Upward Bound by Syracuse in 1966-68. The trend seems to be toward giving separate contracts for jobs that are part of some larger program design. For instance, in the United States Office of Education Targeted Research and Development on Reading, behavioral definition of reading competence was assigned to one group, research on how one learns to read to another, and a survey of America's reading program to yet a third. In another example, the Office of Economic Opportunity arranged for Performance Contracting by providing funds to enable school districts to contract with one of six approved companies. Both schools and companies are to be provided general management assistance by a different company, and yet another company, called a Test and Analysis Contractor, will be the program evaluator.

The trend toward short term, piecemeal, and price-conscious contracts is obviously designed to save money, but it may also be an attempt to utilize advantageously talent from a variety of sources, to allow each new administration flexibility in changing program emphasis, to minmize the danger of total failure of projects, or to maintain independence of contract performance and evaluation. Whatever the reasons, the personnel need is for many flexible, generalist-type, applied investigators with varying levels of skills and competence. It is just such personnel that will make up the target group of trainees for SCERT.

Assumptions

Before describing some of the features of the SCERT program in greater detail, the original assumptions on which the program is based need to be explicated:

1. It is assumed that the present rate of social change will continue and perhaps increase. This change will certainly include modifications in educational processes and will likely lead to a need for different attitudes, competencies, and roles for those engaged in research development, demonstration/dissemination and evaluation. Although continued change is assumed, many specific changes which will occur cannot be predicted. Therefore, we assume that a major need in all educational programs is the ability to manage or to cope with change. As future social and/or educational conditions warrant, competent educational personnel will be those who

develop the capacity for self-education as the demands upon them become modified. Because we recognize that a "good" program at one point in time may at another point in time constitute a "crime" against humanity, we assume that any adequate training program must be modifiable as evidence demands or as socio-educational conditions warrant.

2. We assume that curriculum and instructional development in training programs should go beyond the conventional modifications of courses and credit hours and should (a) include attention to factors which would facilitate development of materials, programs, and organizational structures, (b) guarantee and monitor program evaluation, (c) aid in implementation, and (d) monitor and support students in the process of going through the program. Thus central to this program are support systems such as those described in this document.

3. We assume that the preparation of educational personnel should be increasingly a joint endeavor involving a variety of professionals. For example, we assume that such institutions as universities, public schools, industries and regional educational agencies should be in some way involved in the planning, implementation and ongoing evaluation of programs. We further assume that the program described in this document will operate most effectively in the context of cooperation. We assume the continued existence and interaction of a variety of groups and agencies concerned with the education of research, development, demonstration/dissemination and evaluation personnel in education. We also assume that optimum functioning of this program is ultimately dependent upon the quality of interaction implied by the concept of cooperation.

Unique Features of the Program

The SCERT program has as its most noteworthy features:

1. A focus on effecting change in education;

2. self-renewal and self-correction;

3. a multi-agency client-centered training effort;

4. a multi-disciplinary base;
5. the training of personnel at three distinct competency levels;
6. internship and on-the-job experiences;
7. a modularized curriculum;
8. transportability of the program;
9. training for cooperating and interdependence; and
10. an economically feasible career ladder for educational personnel.

1. Focus on effecting change. The program's principal objective is to effect change and innovation in education by sensitizing trainees to the concept and problems of change, by redefining the roles of existing educational personnel to make them compatible with evaluation and research roles, and by producing client-concerned, output-oriented, accountability-conscious, and assessment-skilled workers.

SCERT has as one of its assets both the means and the opportunities to provide, in addition to the usual emphases in evaluation and research, training in planning and policy evaluation and research. The Educational Policy Research Center and the Policy Research Institute will provide a unique focus for trainees who might want to concentrate in these areas.

2. Self-renewing and self-correcting. Basic to the program are the two support systems described in detail in a later section. SCERT will be able to identify and correct its weaknesses and potentially troublesome areas through these support systems.

3. Multi-agency training effort. Assumption 3 above states that training of research related personnel has to involve a variety of professionals. SCERT involves representation from four areas: public schools, industry, government, and higher education. It regards the satisfaction of these clients as one of its principal missions.

4. Multi-disciplinary base. As noted above, in addition to inputs from the School of Education, SCERT will involve the disciplines of anthropology, economics, political science, psychology, and sociology. The program will provide the breadth essential for the training of competent evaluators and the depth needed by researchers (Glass and Worthen, 1970). The training program will stress and provide for the macro and micro approaches that evaluators and researchers might utilize

in conceptualizing their problems. Since the choice of macro/micro strategies reflects the disciplinary base to a considerable extent, the student will be able to comprehend and utilize the structure of a discipline in his approach to evaluation and research.

5. Three competency levels. SCERT will train evaluators and researchers at three levels: (1) independent investigator, (2) dependent professional or professional role-redefinition, and (3) paraprofessional. The independent investigator will be trained at a level which is equivalent to the doctorate in traditional training programs. With respect to the researcher, the role of independent investigator has been rather well defined and understood. The role of the evaluator, however, is a new one, and an independent evaluator will rarely operate "independently." The independent evaluator is the one who is the leader of the evaluative inquiry. In light of the nature of the proposed training program, it would be difficult to estimate accurately in every case the time for program completion at the independent investigator level. It may require the usual three or four years for some individuals, but for others it will be much less, depending on the individual's pace.

The dependent professional level will involve, again in traditional terms, approximately one year of training time. The dependent professional will be afforded a set of training experiences that will let him redefine his role primarily in public school settings. But the students at this level can be recruited from any type of educational or non-educational institution or agency. Role redefinition represents one of the important inputs from the public school sector of the consortium. Public school based users of the products of SCERT were quick to point out the small likelihood of employing research or research related personnel given the present and foreseeable economic constraints faced by schools. Moreover, even in less stringent economic times, public schools are reluctant to hire "evaluators" and "researchers" since at the first financial crisis or budget squeeze, such individuals would be the first whose positions would be deleted. It was proposed and has been accepted as crucial to SCERT that what was needed was not more new people, but rather more new skills in existing people. Hence, the dependent professionals trained by SCERT will be employed and supported by various constituents within the consortium. These positions include teachers, principals, curriculum workers, and others.

At the paraprofessional level, evaluation and research workers will be trained to perform a number of rather narrow and specific skills or tasks such as item editing, verbal interaction analysis recording, computer programming, information retrieving and others. Students at the paraprofessional level can vary in education and background from a high school dropout to a housewife with various advanced degrees. The length of training time for these paraprofessionals will depend on the skills or set of skills the student will be mastering. Since instruction in the vast majority of these skills will be modularized, students will be able to schedule their own training hours rather freely (after internship hours, early morning, Saturdays, etc.). It is expected that most students will wish to attend on a full time basis, but because of the nature of the SCERT program at this level, it will be possible to utilize those aspects of the program for part-time participants as soon as the relevant modules are developed.

6. Internship and on-the-job experiences. Each trainee at each level will from the start of his program be an intern within some on-going educational research and evaluation activity in one or more of the four types of institutions making up SCERT.

7. Modularized curriculum. The bulk of formal instruction in the program will take place through a series of modules. A module is defined as a planned instructional episode of a duration ranging from a minimum of a few hours to a maximum of several months. Most modules have pre and post performance measures, though some are designed so that performance measurement is continuous. Modules in the SCERT program take on a number of forms including totally mediated instructional episodes, seminars, self-study, and internships and field experiences. The actual operation of modules is more fully described under the sections on support systems.

8. Transportability. The modules and internship experiences are not campus bound. While many, if not the majority, of modules will be available at Syracuse University, there is no reason that, once developed, these modules could not be housed in any off-campus location which has the necessary support facilities (i.e., computer terminal, media equipment, etc.).

9. Cooperation and interdependence. The training experience will emphasize the interdependent nature of carrying out inquiry within educational settings. The training program will include several modules on this problem, and by its inclusion of three competency levels, will allow trainees ample opportunities to learn how to work with one another.

10. Economically feasible career ladder. By combining the resources of public schools, governmental agencies, industry and universities in support of internships and other training experiences, it becomes possible for the trainee to increase his competencies and his status within the education community while maintaining his economic well-being.

SCERT Constituents

The Model calls for the collaboration of several types of institutions from the educational sector to create a number of new training programs and experiences. This collaboration has been underway for some time and will continue to operate throughout the proposed program. Participants in the Syracuse Consortium will include personnel and/or facilities from the following:

Institutions of Higher Education

- Syracuse University
  - School of Education
  - All University Department of Psychology
  - Maxwell School of Citizenship & Public Affairs
  - College of Arts and Sciences
  - Center for Instructional Communication
  - Center for Research and Development in Early Childhood Education

- University College

Public Schools

- Canastota Central School District
- Jamesville-Dewitt Central School District
- Niskayuna Central School District
- Syracuse City School District

Educational Industry

- System Development Corporation
- Syracuse University Research Corporation
  - Educational Policy Research Center
  - Educational Policy Institute

Governmental Agencies

- Finger Lakes Regional Planning Center (Title III)
- Educational & Cultural Center for Onondaga County
- New York State Department of Education
- Vermont State Department of Education

II. DESCRIPTION OF DESIGN PHASE ACTIVITIES AND MAJOR DECISIONS

The process of conceptualizing, designing, and operationalizing the program described in this report was a long and thought-provoking effort. In this section, the steps taken during the design phase and the major decision points in the flow of activities will be outlined.

Prior to the submission of the original design phase proposal, time was devoted to determining whether a program as presented in this report would be consistent with the goals and objectives of Syracuse University, and in particular the School of Education. The implications of such a program were discussed with representatives of the central administration: Dr. John C. Honey, Vice President for Research, Dr. John Johnson, Vice Provost for Minority Affairs and the Program Development Staff of the Syracuse University Office of Sponsored Programs. As the original conceptualization of the program was laid out for these individuals and their staffs, their responses were consistently positive and extremely encouraging. Many of their suggestions served as inputs for the Design Proposal.

In addition to the above, conversations were held with the University registrar and several members of his staff. These discussions focused on the problems created by introducing a modular program. Again these discussions were enlightening and encouraging in that procedures were suggested which would handle tuition and payment processes for a modularized transportable program. A module is a planned instructional experience of varied length containing pre- and post-test measures of performance. Every member of the Central Administration with whom contact was made indicated quite clearly that the proposed program was consistent with their desires for curriculum innovation. Specific reference was made to the modular approach, since many schools and areas are moving through the "mini-course" stage towards the modularizing of material.

Discussions with the Deans of the School of Education, Dr. David Krathwohl and Dr. Robert Stewart, were likewise encouraging. The program's emphasis on the development of "change agents" for education was seen as totally congruent with the effort currently being mounted by the School of Education in this area. Reference was made to the consistency of the proposed program's activities with the on-going efforts of the School of Education and its cohorts (Policy Institute, Educational Policy Research Center, Syracuse University Research Corporation, etc.) in the areas of Evaluation and Research as well as Development and Dissemination. Specific involvement of individuals from these organizations was also explored and confirmed.

Since Syracuse University has had a long history of cooperation with public and private schools and other institutions throughout New

York State and the nation, the task of identifying possible members of a training consortium was simplified. In examining past relationships and future activities, particular attention was paid to an institution's interest in the process of change as a criterion for possible involvement in the proposed consortium. This criterion was established because of the program's focus on educational change. Decisions whether to approach an institution for possible involvement were also based on geographic, socio-economic and experiential backgrounds.

Institutions identified as possible contributors and beneficiaries of an Evaluation and Research Training Program were invited to attend a meeting to explore their interests in such a program. In the Appendix, a list of all individuals with their institutional affiliations who attended that initial meeting or were contacted at a later date is presented. On the basis of that meeting, letters of commitment were received and specific contact individuals identified.

Several work sessions were held with those individuals identified as representatives of institutions interested in working with the consortium in the development of an operational program. Many of these institutions have already established lines of communication and mutual trust during the development of the Syracuse Model Elementary Teacher Education Program (1969). It is essential that a strong cooperative relationship be present if a consortium as proposed in this program is to operate effectively. The completion of this report and the efforts contained herein is a demonstration of an operational cooperative.

The relationship among the basic components of the program is depicted in Figure 2.1. The overlap of spheres of interest represents the operational aspects of the program. A trainee while participating in program activities will be exposed to and in most cases immersed in one or more participating organizations' on-going activities. The overlapping areas also indicate an area of mutual responsibility for the training of evaluation and research personnel for education. The exact operation of the concept of shared responsibility will be discussed in greater detail in subsequent sections of this report. What is important to note here is: (1) the development of a joint commitment on the part of these institutions to be directly involved in the educational change effort and in the training of evaluation and research personnel to facilitate change, and (2) the development of a unique organization to solidify and perpetuate this commitment. Such commitment implies shared responsibility, shared facilities, shared personnel, shared materials, and shared financial support. The advantages to each institution from such a condition of cooperation would be different, but the probability for multiple advantages for each institution would be high.

The program calls for the collaboration of several different types of institutions from the educational sector to create a new organization

Cooperation Concept

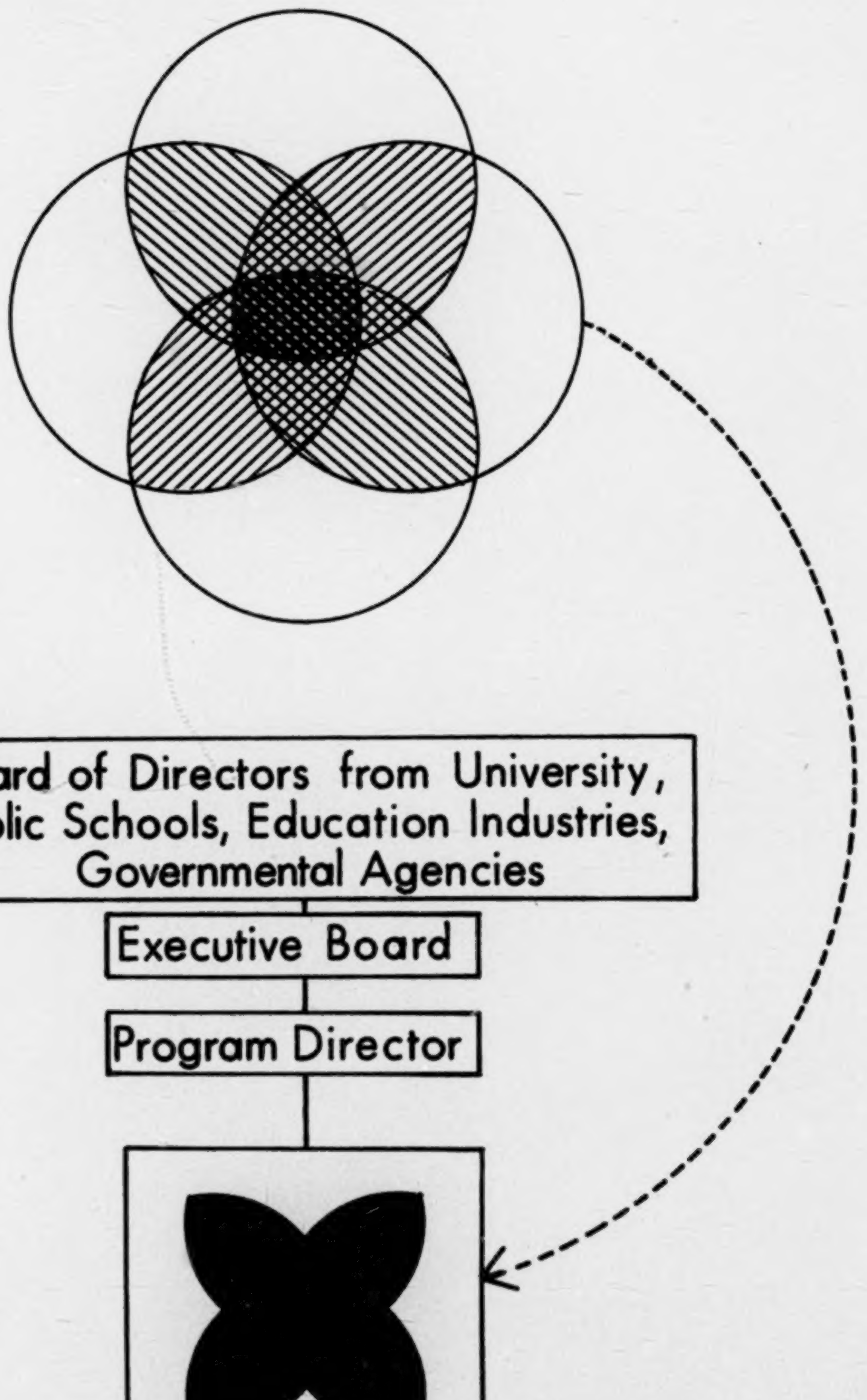

Board of Directors from University, Public Schools, Education Industries, Governmental Agencies
Executive Board
Program Director
SCERT

Figure 2.1

for the training of evaluation and research personnel in education. As explained above, the consortium concept of training is rather well-established at Syracuse University and is not one that has to be re-explored. Participants in the Syracuse Center for Evaluation and Research Training (SCERT) consortium include personnel from the following institutions.

Institutions of Higher Education:
- Syracuse University
  - School of Education
  - All University Department of Psychology
  - Maxwell School of Citizenship & Public Affairs
  - College of Arts and Sciences
  - Center for Instructional Communication
  - Center for Research and Development in Early Childhood Education
- University College

Public Schools:
- Canastota Central School District
- Jamesville-Dewitt Central School District
- Niskayuna Central School District
- Syracuse City School District

Educational Industry:
- System Development Corporation
- Syracuse University Research Corporation
  - Educational Policy Research Center
  - Educational Policy Institute

Governmental Agencies:
- Finger Lakes Regional Planning Center (Title III)
- Educational & Cultural Center for Onondaga County
- New York State Department of Education
- Vermont State Department of Education

Once cooperation and assistance were solicited and secured and representatives of each constituency identified, a task force for the design phase was organized. The Design Task Force was composed of six members representing the different constituents of the consortium. This group had the primary responsibility for designing the training program. The co-directors of the designing phase as well as representatives from the various constituencies of the proposed program are listed on the following page.

Design Task Force

Berj Harootunian - Syracuse University (Project Director)

Thomas Samph - Syracuse University (Project Co-director)

Stephen K. Bailey - Syracuse University Research Corporation

William Kent - Systems Development Corporation

Joseph H. Oakey - Commissioner of Education, Vermont.
(formerly: Niskayuna Public Schools)

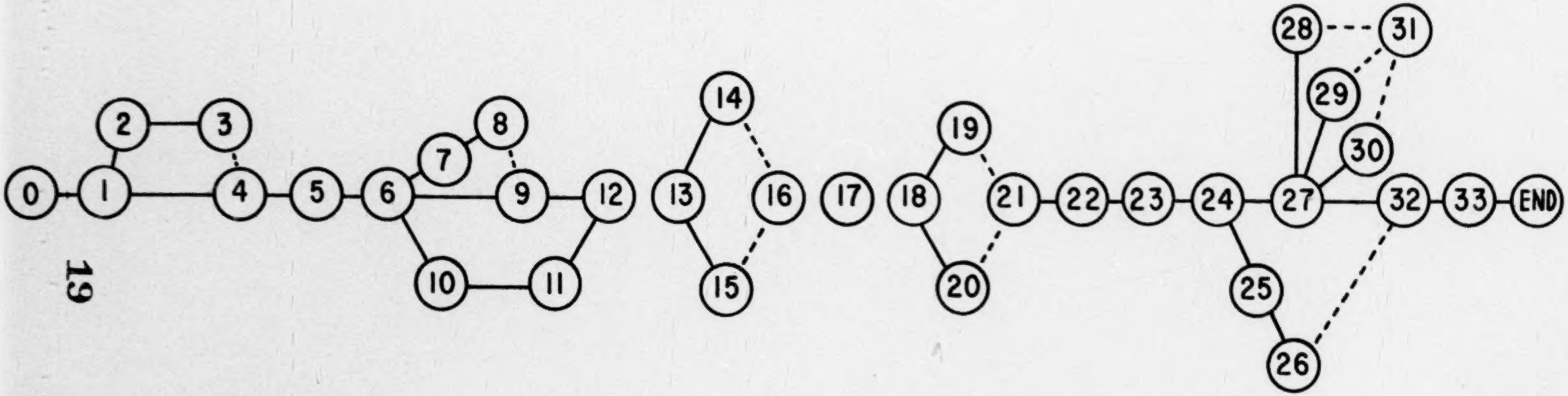
Stuart Naidich - Finger Lakes Regional Educational Planning Center

The first activity of the Design Task Force was to use the Program Evaluation Review Technique (PERT) to determine the events and sequence of activities necessary to develop a plan for an operational program by December 18, 1970. Figure 2.2 depicts the efforts of that initial activity.

It became clear from the initial discussions with representatives of each of the constituencies that data were necessary to aid in the process of deciding on which aspects of the program the staff would concentrate initially. A market survey was designed to determine the needs and capabilities of each constituency for personnel in the areas of research, development, dissemination and evaluation. Tasks were subcontracted to each constituency so that data could be obtained which reflected the needs and capabilities of governmental agencies, educational industries, public schools and the university. Tables 2.1 and 2.2 present a summary of the results of that market survey. It should be noted that no effort was made to make this market survey comprehensive of all such institutions, but rather to reflect the needs and capabilities of institutions in the Syracuse cooperative who are probably representative of governmental, industrial, and educational institutions in general.

The data indicate that nearly all the cooperating institutions saw needs for evaluation, dissemination, development and research personnel in that order. The need for personnel at the three levels of: (1) independent investigator, (2) role redefinition personnel or dependent professional and (3) paraprofessional, was also indicated. It was the decision of the Design Task Force to concentrate on evaluation personnel and to include as a necessary part of the program the training of educational researchers. The similarity of many skills

SCERT'S PERT NETWORK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END

FIGURE 22

PERT Summary of Program Activities

Event/Event	Activity Description
0/1	Receipt of RFP
1/2	Identify Program Goals
2/3	Consistency of Goals with Syracuse University, especially School of Education
1/4	Conference with Potential Consortium Representatives to Solicit Cooperation and Assistance
4/5	Identify Representatives of the Constituency
5/6	Select Design Task Force
6/7	Request for Funds Prepared and Submitted
7/8	Contract Awarded
6/9	Develop PERT Chart
6/10	Design Market Survey to Determine Needs and Capabilities of Each Constituency
9/12	Presentation of PERT Charts to Constituency Conference
10/11	Design Task Force Analyzes Market Survey Data
11/12	Presentation of Market Survey and Analysis to Constituency Conference
12/13	Design Task Force Integrates Constituency Suggestions into Decision-making Process for Program Direction
13/14	Gather Data from Disciplines on Concepts and Skills Particular to Their Areas
13/15	Review Literature Related to Training RDDE Personnel
16/17	Specify Instructional Modules

PERT Summary of Program Activities (Continued)

Event/Event	Activity Description
17/18	Complete Instructional Objectives for Modules
18/19	Develop Monitor-Evaluation Support System
18/20	Develop Program Support System
21/22	Develop Preliminary Final Report
22/23	Bring Constituency Representatives Together to Review Documented Modules and Support System
23/24	Design Task Force Deals with Inconsistencies and Problems Brought Forth in Constituency Conference
24/25	Preliminary Final Report is Revised and Sent to USOE
24/27	Resolved Inconsistencies and Problems are Integrated into Program
25/26	File Copy of Preliminary Final Report is Maintained for Development of Final Report
27/28	Collect Data for Est. Cost/Analysis of Monitor-Evaluation Support System
27/29	Collect Data for Est. Cost/Analysis of Program Support System
27/30	Collect Data for Est. Cost/Analysis of Instructional Program Development
27/32	Complete Specifications of Modules and Program
31/32	Complete Final Budget
32/33	Write Final Report
33/end	Send 20 copies of Final Report to USOE so as to arrive on or before December 18, 1970.

TABLE 2.1

Number and Percent (N/%) of Individuals Perceived as Needed In Each Training Area

	R	D	D	E	Total
Public Schools	4/3	6/5	10/7	27/20	47/35
Government Agencies	5/4	7/5	29/21	12/9	53/39
Educational Industries	4/3	11/8	7/5	14/10	36/26
Totals	13/10	24/18	46/33	53/39	136/100

TABLE 2.2

Number and Percent (N/%) of Individuals Needed at Each Training Level:
1. Independent Investigator,
2. Dependent Investigator
3. Paraprofessional

		R	D	D	E	Total
Levels	1.	3/2	4/3	4/3	17/13	28/21
	2.	1/1	14/10	10/7	28/21	53/39
	3.	9/7	6/5	32/23	8/5	55/40
	Total	13/10	24/18	46/33	53/39	136/100

and competencies between evaluators and researchers was one factor entering into that decision. Additionally the Task Force concluded that the training capabilities for dissemination and development personnel should be introduced into the program at a later date and at a gradual rate. This decision was made in order to avoid the spreading of available resources too sparsely among the four training aspects of the program.

Another major factor contributing to the decision to concentrate on the training of evaluation and research personnel in education was the Task Force's belief that the process of effecting educational change could best be initiated by evaluation personnel. In order to change, one must make decisions on the effectiveness of current operations. Only after data are presented can one reasonably consider alternatives.

Consistently, the constituents of the Syracuse cooperative indicated a need for researchers who are different from the researchers currently being produced by training programs across the country. Also, the sole use of the psychological model with its statistical counterpart was seen as needing modification by adopting the concepts and techniques of other disciplines. A need for researching educational problems from anthropological, sociological, political and economic frameworks was explicitly outlined.

All of the above reasons for concentrating in the areas of evaluation and research were presented to the representatives of each of the constituents. This was accomplished through a conference and formal presentation of the market survey data and analysis. This conference represented one of the major decision points in the development of a program design. The decision of the Design Task Force to concentrate on evaluation and research was affirmed by the representatives present as the meeting.

The data collected from each of the constituents on the training capabilities and experiences that could be afforded trainees at all levels were summarized so that they would be readily available when needed. The large number and extent of training experiences available lead to some speculations on the nature of internships in various institutions. The cooperative nature of the training program would permit the cross-fertilization of ideas and experiences across institutions. No longer would it be necessary for training experiences to be artificially created, but now they would be available to all members of the cooperative on a shared basis.

The task force, in its continual effort of wrestling with the development of the program, considered and adopted the idea that every trainee upon admission to the program would be assigned an internship. This idea fit logically with the desire of the task force to have a modularized program that was as transportable as possible. This meant that a trainee would be actively involved in an intern experience and at the same time selecting, on the basis of need and interest, those modules that were pertinent to current activities. The transportability of the modules would permit the trainee to take the module activities at the same location as the intern experience.

Since it was also the desire of the Design Task Force to develop a training program that would ultimately be self-supporting, the on-going internship provides an opportunity for financial support of trainees. For example, at the role redefinition level, an individual trainee could maintain his or her present position and work toward an advanced certificate or degree without creating a job vacancy. A rapid survey of assistant principals and teachers clearly indicated this as an extremely desirable process for obtaining new and/or additional skills and knowledge. The on-going internship was also seen as an economically feasible career ladder and as a means to foster change from within the organization as opposed to change being imposed externally.

Since the intent of the program was to provide researchers and evaluators with depth and breadth of knowledge respectively, the design task force designed a process by which the disciplines could outline concepts and skills that they saw as particularly relevant to the training of evaluators and researchers. Using the skills and knowledges presented in the AERA Task Force report on Research, Development, Dissemination and Evaluation Personnel in Education (Worthen, 1970), the Design Task Force requested representatives from the disciplines to indicate what their field has to offer to the training of evaluators and researchers.

The responses from the academic areas were secured and summarized. Some departments responded ambiguously but others were more specific. For example, the anthropology department devoted a considerable amount of time and energy into specifying quite specifically the anthropological input for the training of evaluation and research personnel in education.

These inputs and the reactions of individual members from various constituencies provided the basis for the instructional program. The curriculum for the training program was developed from these specified inputs and a review of the literature related to the training and/or activities of evaluation and research personnel.

As specific concepts and skills became available, the Design Task Force began to specify the instructional modules. Instructional objectives were then completed for each of the modules. With the modules specified to some degree, the process of building the instructional program began. Skills and competencies were identified as primarily an evaluation activity, primarily a research activity or as common to both the training of evaluators and researchers. Modules were continually reviewed and criticized by various representatives from each constituency. Particular attention was paid to assuring that individual modules and series of modules reflected the program emphasis on the development of "change agents" who are skilled evaluators and researchers at three levels of competency.

Modules were placed into the instructional program so as to retain what might be a reasonable sequencing of activities over time. Duplication in module specification was handled by a careful and time-consuming analysis of each module objective. Once this task was completed, a document describing the modules and the program was prepared and sent to representatives from the constituent institutions. A conference was then held to permit all constituents of the Syracuse cooperative to point out inconsistencies and problems with the program as specified. Each representative came prepared to isolate the problems he saw in the program and to suggest new approaches. The inputs suggested were perceptive and valuable in getting a handle on the totality of an operational program.

Of concern to many representatives were the mechanisms for rewarding individuals participating in the training program. The issue of State certification for engaging in program activities was raised. The representatives from the New York State Education Department answered the question by indicating that certification for participants of this program would not be a problem, since we have made the program performance-based. It can be easily demonstrated that a particular trainee has the requisite skills and competencies for certification when performance-based criteria are utilized.

In discussions with the Deans of the School of Education and the Committee on Higher Degrees, the Design Task Force was assured that if students could demonstrate competency in specified areas and be recommended for certificates or degrees by their faculty advisors and several instructional specialists that they (the trainees) would be recommended for appropriate credentials.

Once the outline of the program was complete and a conceptualization of its operation was presented, the issue of administering the program came to light. Various options were presented by the constituents which included: (1) the establishment of a completely autonomous organization with responsibility of training evaluation and research personnel, (2) the sub-contracting of various skill development activities to different cooperative members, and (3) the university maintaining the prime contractor role and coordinating function of the program through a group of constituent representatives.

It was decided to go with option number three and to establish two groups to oversee the total operation of the training program. A Board of Directors consisting of representatives from each constituency was formed. The function of this board is to make all major policy decisions and give advice and approval to major personnel, facility and budget decisions of the Executive Board. The second group, the Executive Board, is composed of one representative from each of the types of institutions in the cooperative and one student representative from each of the three levels. The Executive Board is responsible for the development and operation of the SCERT program and is directly responsible to the Board of Directors. The area in which the Executive Board can make decisions will be determined by the Board of Directors. Both the Board of Directors and Executive Board will determine their own procedures for decision making.

Figure 2.3 provides a complete listing of the individuals and their institutional affiliations for the Board of Directors and the Executive Board. Every attempt was made to assure that each institution in the cooperative could have a voice in specifying the direction and affecting the operation of the SCERT program.

Figure 2.4 depicts the organizational structure of the Syracuse Center for Evaluation and Research Training. The Program Director is responsible for the day-to-day, over-all program development, evaluation, and operation. He makes personnel and budget allocations and major facility and equipment authorizations. The Project Director is directly responsible to the Executive Board and he functions primarily to implement decisions made by the Executive Board. The Program Director serves as Chairman of the Executive Board.

Working directly for the Project Director are: (1) the Support Systems Coordinator and (2) the Instructional Program Coordinator. The Support Systems Coordinator is directly responsible for the development, evaluation, and operation of the Program Support System and the Monitor-Evaluation Support System (MESS). The Instructional Program Coordinator is responsible for the development, evaluation, and operation of the evaluation and research components, personnel and budget allocations to components, and instructional program evaluation, planning and modification (it should be pointed out that both coordinators will provide data into the decision process concerning the eligibility of trainees for certificates or degrees).

Once the program is operational, it is intended that neither of the Support System or Program coordinators be full time on the program. Due to the tremendous developmental task to be completed in three years, it will be necessary to maintain these individuals full time initially.

BOARD OF DIRECTORS

Public Schools
- Canastota Central Schools
  - Donald F. Rielle - Superintendent
- Jamesville-Dewitt Central Schools
  - Harold J. Rankin - Superintendent
- Niskayuna Public Schools
  - James Purcell - Director, Research and Development
- Syracuse City Schools
  - Rudolph A. Zieschang -Director, Curriculum Services

Governmental Agencies
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  - Nicholas Collis - Director
- Finger Lakes Regional Planning Center
  - Stuart Naidich - Planner
- New York State Education Department
  - Lorne Woollatt - Associate Commissioner for Research and Evaluation
- Vermont State Education Department
  - Joseph Oakey - Commissioner

Educational Industries
- Syracuse University Research Corp.
  - Stephen K. Bailey, Director, (Political Science) Policy Institute
- Systems Development Corporation
  - William Kent - Director Washington Branch

University
- Syracuse University
  - Donald P. Ely - Instructional Technology
  - Eric F. Gardner - Psychology
  - David Krathwohl - Education
  - Seymour Sacks - Economics
  - Barton M. Schwartz - Anthropology
  - Charles V. Willie - Sociology

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Co-Chairmen: Berj Harootunian - Syracuse University
Thomas Samph - Syracuse University

Public Schools:
Rudolph A. Zieschang - Syracuse City Schools

Governmental Agencies:
Joseph Oakey - Vermont State Education Department

Educational Industries:
William Kent - Systems Development Corporation

University:
David Krathwohl - Syracuse University

Figure 2.3

Board of Directors and Executive Board of SCERT Program

SCERT Organizational Structure

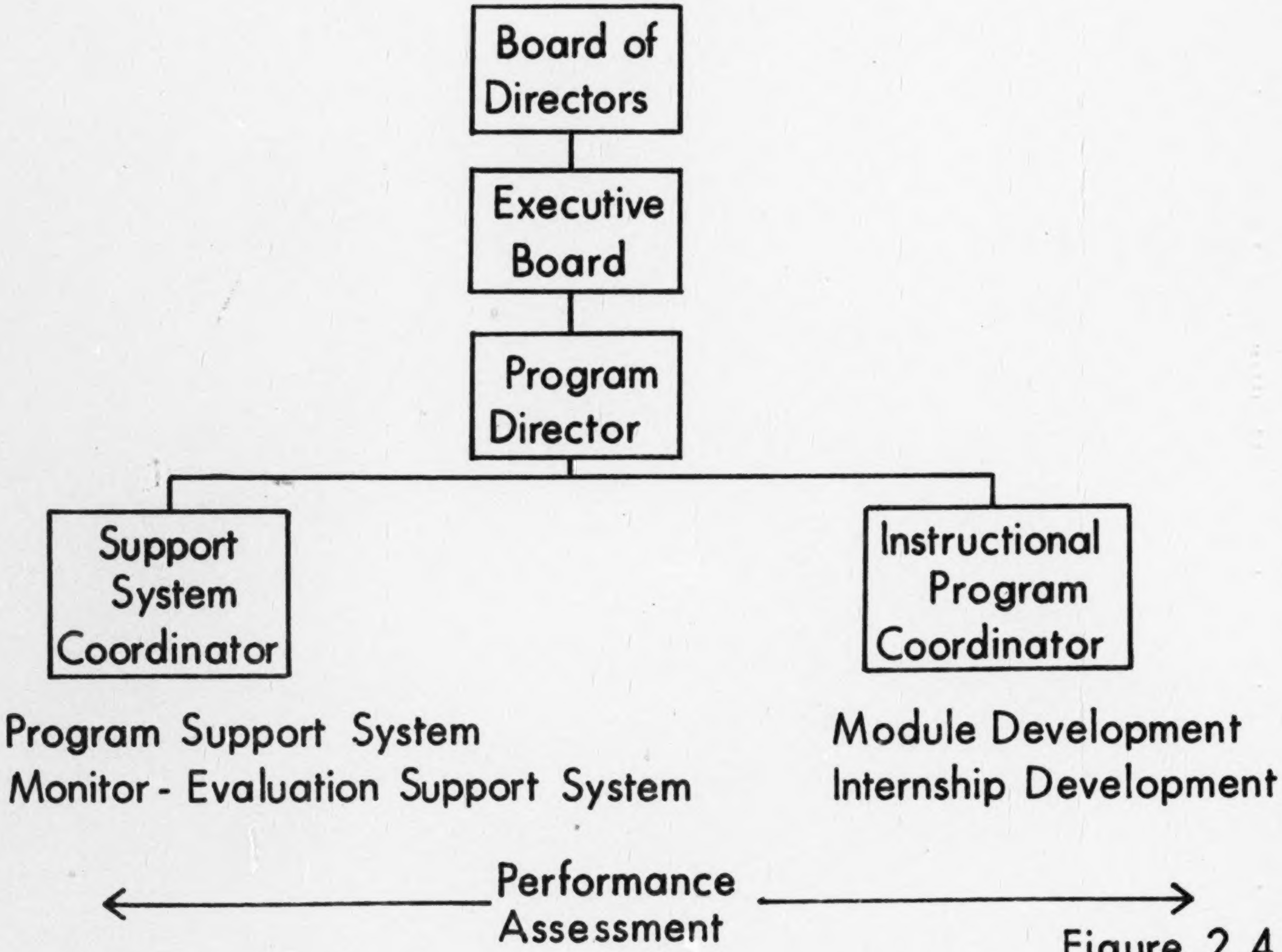

Board of Directors
Executive Board
Program Director
Support System Coordinator
Instructional Program Coordinator
Program Support System
Monitor - Evaluation Support System
Module Development
Internship Development
Performance Assessment

Figure 2.4

Occurring concurrently with the specification of modules, instructional experiences and objectives was the development of the support systems for the training program. A complete explanation and description of the Program Support System and the Monitor-Evaluation Support System can be found below.

As work on the modules progressed it became clear that the support systems would have to meet several general specifications.

1. In order for the cooperative described in this document to function, information on students, materials, facilities, staff, time schedules and finances must be available to each member of the constituency. The support systems must facilitate the communication of this information.

2. To have an off-campus transportable modular program operational, mechanisms for monitoring the program must be developed.

3. The effectiveness of modules being developed and those being utilized must be determined. The support systems will provide a mechanism by which this evaluation can occur.

4. Student performance must be evaluated and monitored currently with program and module evaluation. Support systems that are integrated into the operations of the instructional program will permit this monitoring and evaluating function.

These specifications served as a guide for the development of the Program and Monitor-Evaluation Support Systems. Extensive conversations with members of the Syracuse University Computing Center and Data Center highlighted the problems inherent in a computerized system which would meet our general specifications. They saw the primary problem as residing with the users. Instruction must be offered to all students engaged in the instructional program so that they would be able to communicate with the system. It was decided, therefore, to provide every student with a series of modules which would provide him with the necessary computer usage skills to operate the Monitor-Evaluation Support System.

The Computing Center Staff indicated that there would be no problem in making the hardware/software system operational. The remote access capability is currently available through numerous hardware terminals (60) and several portable terminals so that very little time and resources would have to be expended in this area.

Available information retrieval systems were discussed with specific reference to the student records subroutine developed by the School of Library Science. A decision was made to make this system a model for the software package to be developed for the SCERT program.

The Design Task Force continued with its efforts to specify modules and program components assisted by feedback from participating members of the constituency. When a preliminary final report was ready, another conference was held to explain the product and receive final inputs from the constituents. A re-commitment to the evaluation and research training program described was secured from each participant. And in the jargon of today's space-age language, "all systems were go."

Decisions were made concerning the implementation strategies for SCERT (the finalized plan is specified below). These discussions were followed by an analysis of available personnel capable of performing tasks necessary for developing an operational program. A consideration of the material, facilities and personnel needed for the SCERT program led into the development of the budget request presented in Section V.

The budget was constructed by taking each module and determining estimated costs for the materials to be used, the facilities necessary and the staff required of each projected activity. This permitted the Design Task Force to assess the feasibility, relative to costs, of developing modules which provide students with varying modes of instructional presentations. In some cases decisions were made to use several mediums to produce the same desired outcome. These decisions were made because little is known about the effectiveness of various modes of presentations in producing desired student outcomes. In most cases decisions related to the mode of presentation were made with a conscious intent of keeping initial developmental costs at a reasonable level.

Several issues relating to the design and development of modules were discussed by the Design Task Force. The first of these issues included the researchable nature of the training program. It was considered important to have the capability within the program to do research on the training process and the type of materials utilized. This feature was adopted totally by the constituents of the SCERT program.

A second issue which was discussed dealt with the self-renewing aspects of a training program. It was agreed that a "complete" component of modules that would represent "truth" for all time was never possible to achieve. (A program that is seen as doing justice to society at one point in time may be considered a crime against society at some future period.) By providing feedback to the trainees, staff and managers on the performance of modules, it would be possible then to modify material to be more current and reflect new knowledge as it becomes available.

The third issue handled by the Design Task Force was a consideration of training material currently available. A search for available material was initiated. This search included review of ERIC materials, library resources and correspondence with researchers, developers, disseminators and evaluators in the field. Some of the materials that were located were applicable after only minor modifications but much of what has been developed was not generalizable. Other material such as the Goodwin and Worthen AERA report (1970) provided a survey of simulation materials for the training of educational research and research-related personnel which indicated that very few simulation exercises are currently available.

The production of the final report and its publication was the final task in a series of efforts to produce a plan for an operational program for the training of evaluation and research personnel in education. The meaning of all of the foregoing activities can be understood more clearly by examining the materials included in the following sections.

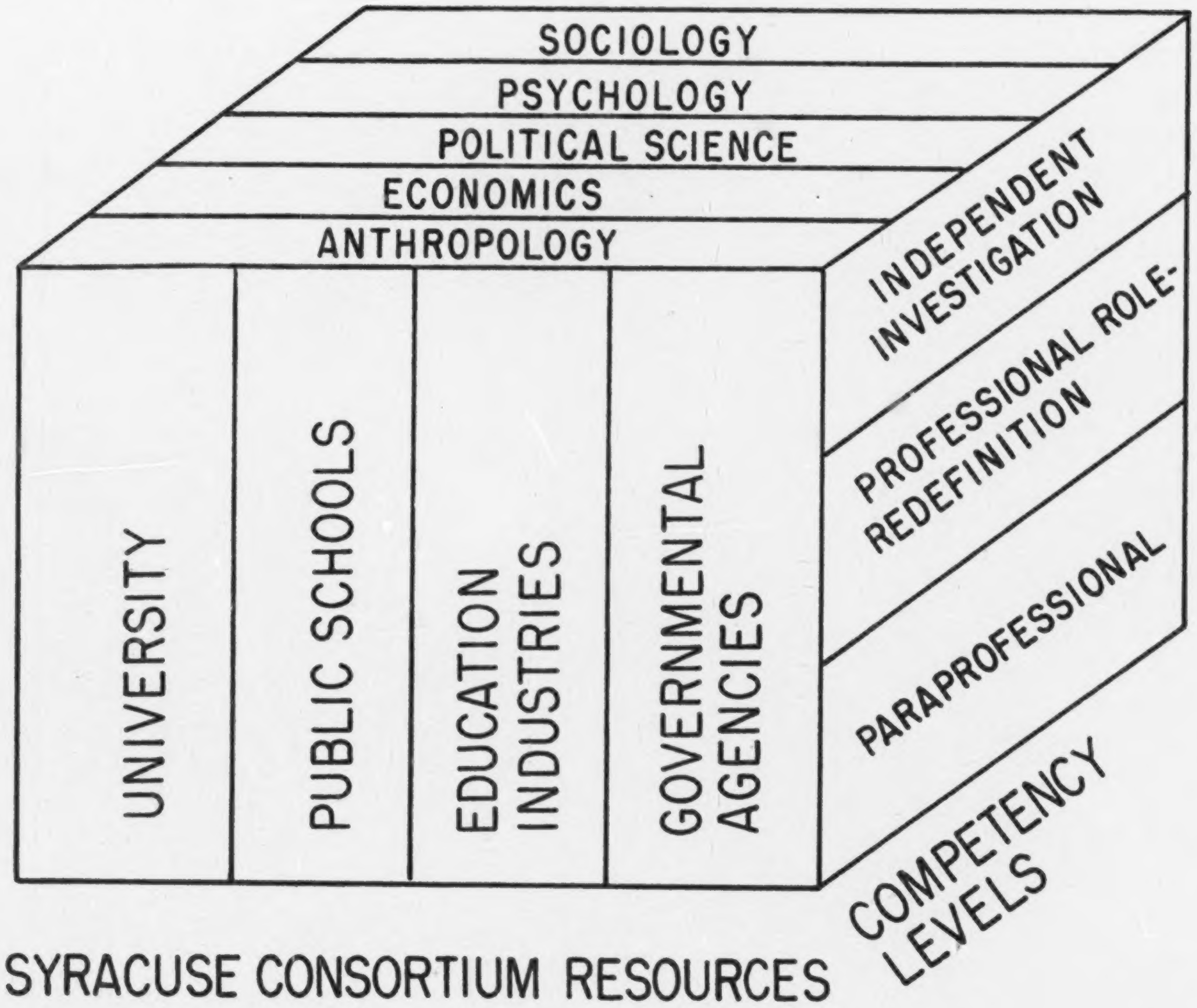
III. RATIONALE FOR THE SCERT PROGRAM

Children who enter first grade this year will by the year 2000 be in the "over-thirty" generation that present youth reputedly holds in scorn and/or suspicion. Will the schools and other educational institutions of the future children of today's first graders be different? Can the schools become the instruments of social change that many want them to be, or is the educational system too rigid to respond to the challenges that confront it? These questions and others like them form the concerns out of which developed the program for the Syracuse Center for Evaluation and Research Training (SCERT). The basic dimensions of SCERT are depicted in Figure 3.1. SCERT will bring together various educational agencies and institutions who through the combined perspectives of a number of behavioral/social sciences will produce evaluation and research workers at three levels of competency. What follows in this section is the rationale for the basic operating principles for SCERT. In a sense, the first principle is the basic one, and all others are subordinate to it.

1. Focus on Change

The primary question that the staff has continually grappled with during the design phase of the SCERT program has been, How will this program change current educational practices? In other words, will the SCERT trainees make a difference for education? While these questions may be viewed by some as naive or too global, they reflect what we who were involved in the development of SCERT regard as the principal basis for the program described in this report. The mission of SCERT then is to try to prepare individuals who will be able to effect change in the educational institutions in which they will operate. The ultimate objective for SCERT is to train personnel who will focus on the renewal of the educational system.

It is the goal of SCERT to focus on the training of evaluators and applied researchers who through their efforts will be able to meet changing needs of the educational system and to help the educational system anticipate and identify as yet unarticulated needs. The various levels of individuals in the SCERT program will be trained as team members to fill a number of different roles--planning, gathering and using evidence for decisions, coping with an ever-growing information volume, identifying and managing innovation. These new research and evaluation workers will be client concerned, output oriented, accountability conscious and assessment skilled. They will know how to use management information systems to help in planning and decision making. The fact that SCERT within its constituency includes two organizations, The Educational Policy Research Center and the Policy Research Institute, which are concerned with such issues as described above, provides a unique and fortuitious opportunity which SCERT will be able to take advantage of.


SOCIOLOGY
PSYCHOLOGY
POLITICAL SCIENCE
ECONOMICS
ANTHROPOLOGY
UNIVERSITY
PUBLIC SCHOOLS
EDUCATION INDUSTRIES
GOVERNMENTAL AGENCIES
INDEPENDENT INVESTIGATION
PROFESSIONAL ROLE-REDEFINITION
PARAPROFESSIONAL
COMPETENCY LEVELS
SYRACUSE CONSORTIUM RESOURCES

AN INTEGRATED CONCEPTUAL MODEL OF SCENT'S RESOURCES, COMPETENCY LEVELS, AND MULTI-DISCIPLINARY BASE

FIGURE 3.1

But even with the strength of these agencies, change is hard to come by. The fact is that reliable ways of bringing about improvement in education have yet to be identified by the educational researchers, developers and related workers. The problems of initiating innovation in education have been likened to the physiological phenomenon that occurs when organs are transplanted from one body to another; unless extreme precautions are taken, there is a tendency for the body to reject the foreign tissues. The imposition of "organs" from outside tend to be rejected by that which already exists. Hence one of the basic principles on which the SCERT program will operate is the concept that the training program for evaluators and researchers must pay fully as much attention to the context of the training as it does to the content. As Gideonse has stated, "Science as it is practiced and managed in support of education is as much a social and political activity as it is a scientific one. . . It is people, not things, who are affected by the behavioral and social sciences." (Gideonse, 1970, pp. 20-21).

One implication of the foregoing is that the SCERT trainees from the beginning will be an integral part of the educational institution or agency within which they will be interns. For example, one of the aims of SCERT will be to redefine and expand the roles of existing educational personnel (e.g., the school building principal) so that the new or expanded role includes evaluation and/or research capabilities. This intent may be perceived as naive; it is not. We are not trying to make a full-time practitioner into a full-time researcher and/or evaluator. We do intend to provide this practitioner with the skills and know-how so that he can make decisions about the educational procedures within the school. He will be analogous to the general practitioner in medicine who, if he is competent, knows when to call in the specialist and knows also that there are nurses and technologists who can perform many of the routine tasks. He has been trained to understand and talk the language of both sets of people and so will the middle-level SCERT trainee when he finishes his program.

2. Self-Correcting and Self-Renewal

It would be folly, let alone hypocritical, if SCERT focused on effecting change in education without providing mechanisms within its structure that would facilitate its own change. An integral part of SCERT is the support system which has been designed to provide feedback to the program about its operation and its products. The entire program is competency based. The ultimate question regarding the effectiveness of the program is, Are the trainees promoting change in school situations? If the answer to this question is negative, then SCERT will be required to re-examine its basis. However, ultimate criteria are frequently long-term, and it is possible to assess movement toward the objective of change by proximate criteria. One index that movement has occurred in the desired direction is the interest and cooperation expressed by members of the consortium represented by SCERT. SCERT's constituency not only recognizes the need but want to participate actively in bringing about desired changes in the educational system.

If we are to believe the diverse members of our constituency, SCERT embodies an "idea whose time has come." And as Brickell (1967) has noted, "One could wish nothing better for good research in the United States than it occurs on the occasion and point in the direction of an idea whose time has come."

3. Client Satisfaction

Educational decisions and plans currently reflect "conventional" wisdom and personal preferences more than the efforts of knowledge producers (i.e., researchers). Moreover, there is no indication that the communication gap between knowledge-users and knowledge-producers will be less disorganized or chancy given the nature of the current problems. Researchers claim that public schools ask the wrong (i.e., too gross) questions, while public school personnel look upon the researchers as dealing largely with theoretical (i.e., irrelevant and obscure) problems.

That educational research and researchers have been ineffectual vis-a-vis educational practice is evidenced by, among other things, the "Request for Proposals" that led to this particular project. Gideonse (1970) stresses that educational inquiry can no longer afford the luxury of addressing itself to an audience solely of educational researchers. "Educational research and development must be conceived first in terms of the market, consumers, and clients it is supposed to serve." (Gideonse, 1970, p. 25). The ultimate criterion of the market model for research and related activities, as Gideonse has explicated it is "client satisfaction." Therefore the third operating principle of SCERT is that it will be client based and its program will focus simultaneously on training scientists and technologists and training personnel demanded by the market.

We believe that the training program described in this document is compatible with both the concepts of science and the market. Operations research is one activity that may be regarded as combining or overlapping science and the market. While the SCERT program for evaluators and researchers does not focus on operational research as such, it embodies many of the basic ideas of operational research. Our assessment indicated to us that our educational work does want and need scientists and technologists. But the scientists and technologists wanted have to be different from those currently extant. They have to address the real problems of the schools and be able to deal with them. The products of educational inquiry have to be needed before they are bought. Stated differently, those products of educational research and evaluation training programs will be bought by consumers if they are needed at the time. The involvement, both in the planning and operation of SCERT of representatives of public schools, governmental agencies, industry and higher education has guaranteed that the needs of the educational market have been and will be attended to by SCERT. We have concentrated on the training of evaluators and applied researchers as a way of affecting education because we are in complete agreement with Glass and Worthen (1970) who in their consideration of the application of the market mechanism in education wrote that a genuine market relationship can be established only where one party is accountable to the others. "The first step toward instituting the market mechanism in education is to complete the feedback loop between the school and the public."

The priority, therefore, is for personnel who will have the skills and talents to generate the information which will help to complete the feedback loop. We intend the products of SCERT to be such individuals.

4. Multi-disciplinary Emphasis

A fourth operational principle that is aimed at effecting educational change is SCERT's multi-disciplinary base. Brickell (1967) has pointed out that "psychology is the one branch of science which has given long and serious attention to education. The consequence for education has included a jargon derived from psychology, a predeliction among educators for psychological interpretations of school phenomena, the use of research designs and statistical methods copied almost entirely from psychology, the employment of school psychologists at salary premiums and an overdependence on test results for making decisions about pupils." In other words, psychology has "enveloped" education. What is important is that while psychology has tended to influence educational inquiry by its insistence on micro-variables, there are a number of disciplines which are conceptualized in macro-terms. Gideonse (1970) notes that research which is useful to other researchers will tend to be theoretically oriented, looking for clues for further research, micro rather than macro, interested in exploring a few variables rather than many, and so on. For research which is oriented to decision-makers, it should be possible to specify what decisions might be made on the basis of research before it is completed. It will deliberately play on many variables rather than a few, be more frequently macro, and so on.

There are a variety of academic disciplines that can contribute to education (Cronbach and Suppes, 1969). Breadth of approach is particularly necessary where decision-oriented inquiry is the concern. Evaluators particularly need to use a broad range of inquiry perspectives and techniques to deal with questions that confront them. (Glass and Worthen, 1970). Where applied research is of concern, the breadth of our program will be reflected not in terms of an individual as it will in the products of the total program. The problems of the educational market will be attacked by different researchers, trained in depth to apply the perspective of a particular discipline to the problem itself and/or the context in which the problem is extant. In the SCERT program the formal disciplines include anthropology, economics, political science, psychology and sociology.

5. Cooperation and Interdependence

A fifth principle of SCERT revolves around the idea that evaluation and research are team or cooperative endeavors. The stereotype of the educational inquirer working alone to effect educational change is passe. Even in the case of "pure" research the solitary scholar is today more the exception than the rule. The evaluator almost of necessity requires extensive support personnel. Very few training programs in either research or evaluation have focused on the cooperative, interdependent, mature educational inquiry. Actually, it is our impression that there is considerable hostility in many educational settings because those who would carry out the inquiry have been insensitive to the interpersonal variables embedded in most educational problems. The SCERT program has addressed itself particularly to the problems inherent in the hynamics of interpersonal and intergroup settings. Moreover, by establishing a partnership among the constituents, SCERT has emphasized the transactional, rather than the hierarchical, nature of the relationship among its members. Another aspect of the cooperative and interdependent nature of the program is its focus on the training of three levels of personnel: (1) independent investigator, (2) dependent professional or professional role redefinition, and (3) paraprofessional or technical. The interaction of these individuals with one another on the job will, we anticipate, be symbiotic.

6. The Nature of the Training Program

The SCERT program will be modularized, self-pacing and reality based. Since a complete description of the program appears in a later section, only its salient change-inducing features are described here.

SCERT will permit trainees to make decisions about their curriculum throughout their entire program. These decisions per se may not be related to educational change. But since every trainee from the start of his training will also be "on the job" in some relevant educational setting, his choice and sequence of training modules should reflect to a considerable degree the needs he identifies. The training program was designed to be functional in the real world of education. In other words, what the trainee chooses to learn or master will reflect to a considerable degree the nature of the problem confronting him. Hence, the greater the likelihood that what he learns will be internalized and applied.

The trainee will not be bound by artificial prerequisites and requirements which have no demonstrated relationship to his effectiveness on the job. Because much of the training program, once developed, will be transportable, the students need not be constrained by travel and time requirements.

Moreover, the trainee will not be described by the usual standards of grading but by the number and variety of skills and competencies he possesses on completion of his program. In sum, SCERT will provide what we perceive as being a synergistic set of experiences which will benefit the trainee and the constituents in particular and education in general.

7. Economically Feasible Career Ladder

The training of research and research related personnel in education has been and continues to be an expensive proposition. Traditionally full-time students have had to be supported through assistance of one form or another, and large numbers of full-time students in educational research training were not feasible prior to the advent of federal support programs. With the shift in emphasis and the constraints of the current and continuing financial crises in education, alternative means of support must be found for training research related personnel. One alternative, of course, is to go back to the piece-meal, part-time approach of the years prior to 1954 and the Cooperative Research Program when research training was a "bland eclectic mixture of techniques from all known disciplines and ideas from none," (Cronbach and Suppels, 1969). Obviously such a course of action would be naive, and we mention it primarily because it occurs to us that some may construe the program described in this document as resembling the not so "good old days." We are proposing an entirely and radically new approach to the training of evaluators and researchers and the elements described above and below should make that clear. We are advocating that the preparation of educational personnel is not solely the responsibility of the university. Since the responsibility for training is shared as are the products of a training program, then so should its support be shared. The membership within SCERT has accepted the feasibility of this idea and is willing to provide not only field experience opportunities for personnel, but in several instances financial support to the trainee as well. In short, our consortium views the training of evaluators and applied researchers not in terms of the traditional hierarchical relationships between the university and the public school (state education department, Title III Center, etc.) but rather as a cooperative one, and they have supported this commitment in terms of their resources. The net effect of this commitment is that SCERT trainees will be able to bring together their work and their training through such devices as two or more individuals sharing a position, specific amounts of released time, and reassignment of duties. For the paraprofessional and dependent professional levels, this means that once the program has been installed and in operation the training of these individuals can proceed at relatively little cost to them or their institutions. While economic feasibility per se does not insure change in education, the lack of an economically feasible career development pattern will almost insure stagnation. Hence, we believe that by making a program available to at least three levels of educational personnel, the opportunity for innovation and change is enhanced.

IV. PROGRAM SPECIFICATIONS

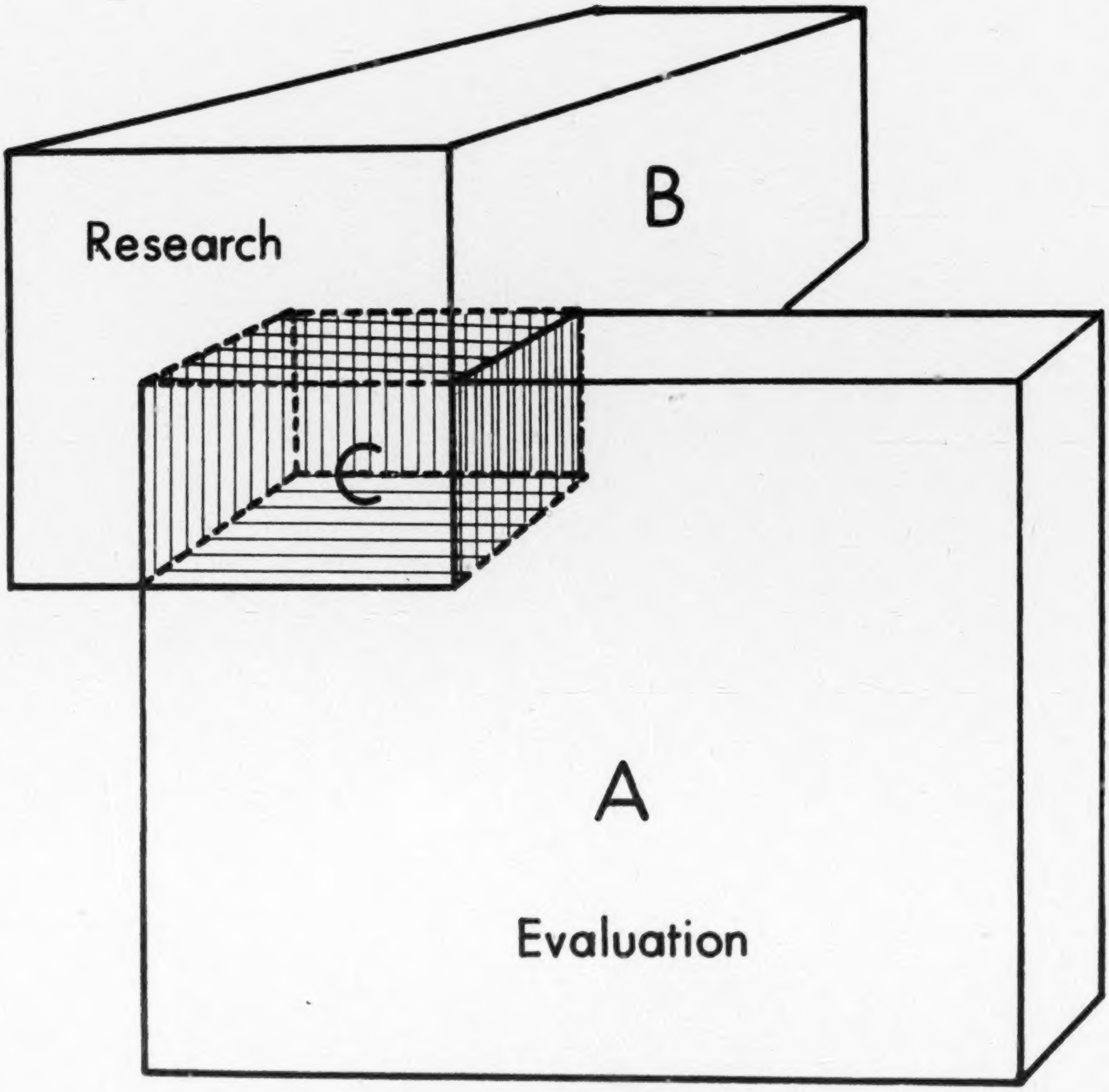
The Conceptual Structure of the Program

The relationship between research and evaluation activities and roles has recently been discussed rather extensively (Glass and Worthen, 1970; Cronbach and Suppes, 1969; Hemphill, 1969; Stake and Denny, 1969; Scriven, 1967). Strictly speaking, the dictinction in the SCERT program between evaluation and research cannot be made precisely in terms of all of the characteristics explicated by Glass and Worthen (1970). Because the SCERT program is focusing on the training of applied researchers who will be change-oriented, client-conscious individuals, the line between the evaluator and the researcher is rather fuzzy with respect to such inquiry characteristics as the motivation of inquirer, the objective of the search, the role of explanation, the autonomy of inquiry, universality and so on (see Glass and Worthen, 1970). The major distinction between the products of SCERT identified as researchers and those identified as evaluators will be in terms of the breadth and depth of their knowledge base. The relationship between research and evaluation is depicted by the three dimensional model in Figure 4.1.

The evaluation aspects of the training program are shown by Region A, which represents the breadth of the methods and contents of anthropology, economics, political science, psychology and sociology. Region A represents the training and background necessary for the generalist who is needed by schools, industry, and governmental agencies to carry out the several types and levels of evaluation necessary. The important payoff will be the evaluator who will be able to identify and grapple with problems from a multi-disciplinary perspective. While we use the term independent investogator throughout this report for both the researcher and evaluator, it should be clear that the evaluator at this level rarely operates independently. What we mean is that the evaluator exerts the leadership role in the inquiry.

Region B represents the depth within one or at times two closely related content areas. Actually there are several B regions that could have been sketched in the depth dimension that would overlap with A at different places. The underlying principle of the research training program is that the trainee will penetrate one of the disciplines deeply enough in terms of its methods and content to master it. At the independent level, he will be a disciplined inquirer who will focus on educational problems.

Region C represents those skills, concerns, sensitivities, etc., that the evaluator and researcher have in common. This overlap represents those competencies that the SCERT program views as the core of most empirical inquiry in education. To conceptualize research and evaluation, it is probably more profitable to emphasize the differences between them, but as Stake and Denny (1969, p. 374) have stated: "The


Research
B
C
A
Evaluation

Relationship Between Research and Evaluation Components

Figure 4.1

distinction between research and evaluation can be overstated as well as understated. . . Researchers and evaluators work within the same inquiry paradigm. . ." Region C in Figure 4.1 represents, therefore, those aspects of the SCERT program that we regard as the *sine qua non* of educational inquiry.

The model represented in Figure 4.1 does not describe how the evaluators and researchers below the independent investigator level will be trained. The breadth and depth dimensions are applicable at this level as well. Dependent evaluators will be broadly based trainees, but not so broadly based as those at the independent level. The independent investigator has to be able to see the "big picture." The dependent investigator's picture is just not as big; he does not have as many skills, sensitivities, competencies and disciplinary perspectives. In terms of Figure 4.1, both the volume and area subsumed by Region A would be smaller for the dependent evaluator.

The dependent researcher does not possess the depth of the independent investigator. Advanced graduate students and master's degree holders traditionally have reflected this level. Region B would not extend as far back for the dependent professional.

At the paraprofessional level, the breadth and depth dimensions are not applicable. The paraprofessional aspects of the program would, in some instances, be represented by surface areas and in other cases by slices. Many, but by no means all, of the paraprofessional skills will be found in Region C.

The foregoing discussion of the structure of the SCERT program has been largely in abstract terms. In the next section these abstractions will be concretized by the different aspects of the training program.

Modular Description of the SCERT Program

The configuration presented in Figure 4.2 describes the modular aspects of the SCERT program. The general objectives for each of the modules represented by the rectangles in Figure 4.2 follow below so that a good portion of the program can be understood by going through the module objectives. It should be noted that headings which are designative of elements or areas of the program are not included in Figure 4.2 but are presented in the list of specific objectives for each module as an organizing function.

There are two dimensions which are relevant to understanding the relationships among the modules of the SCERT program as they are depicted in Figure 4.2. These dimensions are time and space. Students will experience the modules at the left of Figure 4.2 rather early in the

MODULE CONFIGURATION
OF
SCERT PROGRAM

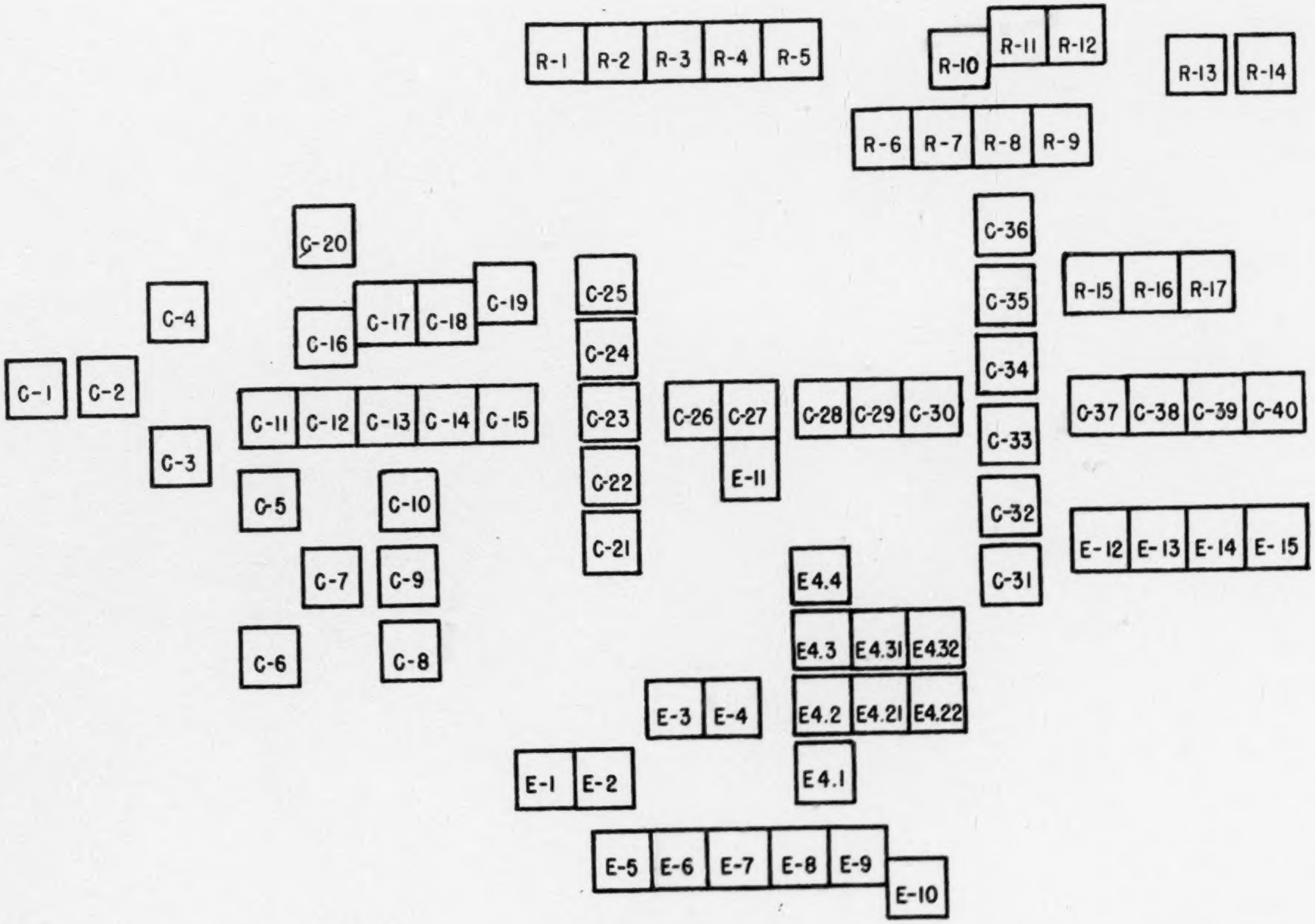

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FIGURE 4.2

program and those modules at the right, later. Modules which are close to one another are viewed as being more closely related. Those modules actually contiguous with one another represent a clustering of concepts which can be understood best by the heading under which they are described under the section titled "Module Objectives for SCERT Program." But the time and space dimensions can only approximate the relationships among these modules. It should be clearly understood that Figure 4.2 is not intended to function as a flow chart. The trainee does not necessarily start at the left and move to the right; he may "plug into" a module at any time depending on the past performance and competence he can demonstrate.

In addition to the time and space dimensions, there is a depth dimension to the modules in Figure 4.2 which is not depicted. For example, the five modules representing the basic concepts of the various disciplines theoretically represent not one module but a series of modules stacked behind one another. The development of these modules was deemed to be of lower priority at this stage and will take place more fully during the operational phase of the program when many more resources can be brought to bear on such tasks. Also, the depth dimension of modules to a considerable extent will reflect the needs and directions of the trainees and constituents. How much any of the modules will grow in the depth dimension will be determined by their utility to the users of the program.

Module Objectives

Core Modules (C)

C1. Introduction to program

Objective: to introduce trainees to the unique features of the SCERT program and make them aware of its operations. In addition, students will be asked for specific commitments without which the program will not meet their needs.

C2. Introduction to the Monitor-Evaluation Support Systems

Objective: to provide students with skills requisite for operating remote access computer terminals. In addition to this skill, each student will understand the operations of the Monitor-Evaluation Support System (MESS) and be able to successfully process information utilizing the MESS.

C3. Integrative Modules
Objective: The modules will address themselves to the integration of conceptual aspects of the program by utilizing participant-participant interaction, staff-staff interaction and participant-staff interaction. These modules will be spaced throughout all phases of the program.

C4. Facilitative Modules
Objective: to permit students in the program to communicate with each other and staff about their concerns and problems while progressing through the program. Advisors, by monitoring student progress, can call such modules into effect to avoid anticipated problems or correct existing problems. Trainees can likewise call an integrative module into effect for similar concerns. These modules will occur as needed throughout the program.

Basic Skills

Interpersonal Skills

C5. T-Group Training
Objective: to increase the student's intrapersonal and interpersonal effectiveness through T-group sensitivity training.

C6. Perceiving Human Relations Problems
Objective: to make students aware of various types of human relations problems.

C7. Awareness of Self as a Member of the Educational System
Objective: to increase trainee's understanding and skill about his role as a professional or paraprofessional.

C8. Anticipating Predicted and Unpredicted Barriers
Objective: to make students aware of high probability barriers in fulfilling their roles and to develop skill in students in anticipating predictable and unpredictable barriers.

C9. Identifying and Rating Resources Available
Objective: to make student aware of various ways of identifying and rating available resources (human, material, and financial) and for potential sources of support.

C10. Identification of the Dynamics and Variables Within the Settings that Affect Change
Objective: to increase student's awareness, understanding, and skills with regard to the socio-psychological variables operating in educational settings that facilitate or impede change.

Communication Skills

C11. Writing Skills
Objective: to provide, where needed, the requisite skills students must have for communicating using paper and pencil media. This module will also include specific reference to writing skills as they pertain to evaluation and research reports.

C12. Speaking Skills
Objective: to develop skills necessary for communicating verbally with other professionals, paraprofessionals and non-professional personnel. Not only will diction be stressed but also the logic of presentations.

C13. Graphics Skills
Objective: to provide students with the basic skills of graphics so that they will be better able to present evaluation and research material and provide more effective dissemination vehibles.

C14. Reading Skills
Objective: to help the trainee in the improvement of his existing reading skills. Particular attention will be paid to the development of skills necessary for reading evaluation and research literature.

C15. Listening Skills
Objective: to develop student skills in listening to speech and identifying salient information which might be helpful in the process of developing working relationships and obtaining data for evaluations.

Technical Skills

C16. Applications of the Computer
Objective: to provide students with some insights into how the computer can be utilized in educational settings.

C17. Programming
Objective: to provide students with skills in two batch-processing languages (FORTRAN IV; PL 1) and two interactive languages (A Processing Language (APL); BASIC).

C18. Auxiliary Hardware/Software
Objective: to permit students an opportunity to operate auxiliary hardware in order to understand their functions in a mechanized environment.

C19. Information Retrieval
Objective: to provide the student with information about existing systems and how they operate and to permit hands-on experience with systems currently available in the cooperative.

Systems Analysis

C20. Management Information Systems
Objective: the student will be introduced to the concept of management information systems and will be able to describe how these systems would be useful in the managing of on-going research and evaluation activities.

Basic Concepts

C21. Anthropology
Objective: to provide students with the basic concepts and strategies utilized by anthropology.

C22. Economics
Objective: to provide students with the basic concepts and strategies utilized by economics.

C23. Political Science
Objective: to provide students with the basic concepts and strategies utilized by political science.

C24. Psychology
Objective: to provide students with the basic concepts and strategies utilized by psychology.

C25. Sociology
Objective: to provide students with the basic concepts and strategies utilized by sociology.

Data Collection

C26. Variable Identification
Objective: to integrate and apply the basic concepts of anthropology, economics, political science, and psychology; to help the trainee identify variables that might be relevant to educational problems.

C27. Operational Definitions
Objective: to enable the students using multidisciplinary inputs to formulate or clarify desired outcomes of programs in operational terms.

C28. Measurement
Objective: to introduce students to the concepts and principles of measurement in education.

C29. Measurement - Scaling Techniques
Objective: to provide the students with skills to utilize scaling techniques in data collection, to enable students to distinguish among nominal, ordinal, interval, and ratio scales and to understand the significance of the various characteristics of the types of data as they relate to data collection and analysis.

C30. Validity/Reliability of Instruments
Objective: to enable students to be able to identify ways of estimating reliability and validity, to use different ways of estimating reliability and validity, to select instruments for specific tools that are adequately valid and reliable.

Specific Data Collection Procedures

C31. Questionnaires
Objective: to develop in the trainee competency in the use, design, construction and selection of questionnaires, including personality inventories, future analysis techniques, and so on.

C32. Interviews
Objective: to develop in the trainee competency in interviewing techniques, and knowledge about the interview such as conducting the interview, constructing interview schedules, advantages and disadvantages of interviews, uses of interviews, types of interviews, etc.

C33. Observation
Objective: to introduce the trainees to various observation strategies (e.g., to high inference and low inference techniques), to the advantages and disadvantages of observation.

C34. Unobtrusive Measures
Objective: to make trainees aware of the effects of obtrusive measures, know some of the ways of devising unobtrusive measures, and to practice these ways.

C35. Cost/Benefit
Objective: to provide information on the conceptual components of cost/benefit analysis; to acquaint the student with the merits and pitfalls of this method; to enable the student to assess when cost/benefit analysis would be useful.

C36. Tests
Objective: to acquaint the student with the underlying principles in test design and construction, to provide students with the concepts needed to make appropriate decisions about standardized and experimental tests, structured and unstructured tests, individual and group tests, cognitive and non-cognitive tests, etc.

C37. Data Organization
Objective: to enable students to describe and organize data statistically, including tabular and graphic presentation of data.

C38. Data Analysis Techniques
Objective: to familiarize trainees with a variety of data analysis techniques, to introduce trainees to the problems of selecting and applying data analysis techniques involving quantitative and qualitative variables.

C39. Sampling Techniques
Objective: To enable student to distinguish between sample and population, identify different populations and apply appropriate sampling strategies.

C40. Inferential Statistics
Objective: To provide students with the knowledge and opportunity to apply various sampling distributions in the testing of hypotheses through both classical and Bayesian analysis.

Evaluation Modules (E)

Goal Identification

E1. Formulation of Goals
Objective: to develop skills to identify salient goals that are implied in system (or program) and to provide the student with skills to evaluate the various goals as they relate to the particular program.

E2. Statement of Objectives
Objective: to provide the skills necessary to enable the student to translate the existing goals of the program into behavioral objectives.

Evaluation Strategies

E3. Formative - Summative Evaluation
Objective: to have the student distinguish between formative and summative evaluation, and utilize formative and summative evaluation as strategies in evaluating.

E4. Application of Basic Concepts to Types of Evaluation
Objective: to make the student aware of the application of basic concepts (i.e., anthropology, economics, political science, psychology and sociology) to types of evaluation (context, program planning and input analysis, process, and output) and to have the student use the types of evaluation in the internship setting or in a simulation exercise. (This particular module will lead into the development of at least four modules: context, input, process and product evaluation.)

E4.1 Context Evaluation
Objective: to introduce the student to the techniques and questions related to the contextual aspects of an evaluation process from a multidisciplinary basis.

E4.2 Input Evaluation
Objective: to introduce the student to the techniques and questions related to the input aspects of an evaluation process from a multi-disciplinary basis.

E4.21 Strategy Identification and Tactics Selection
Objective: to have the student identify alternative tactics to implement selected strategy and to choose those that seem most likely to succeed.

E4.22 Sources of Support or Resources for Implementation
Objective: to make the student aware of how to select sources of support and resources for implementation, and to provide experience in the selection of sources of support and resources for implementation.

E4.3 Process Evaluation
Objective: to introduce the student to the techniques and questions related to the process aspects of an evaluation process from a multidisciplinary basis.

E4.31 Feedback for Decision-making
Objective: to make the student aware of the necessity for immediate feedback to program operators for use in making decisions about modifications of plans, procedures and resource allocation and to have the student use the feedback system in an exercise as well as in the internship experience.

E4.32 Monitoring System Experience
Objective: to give the student field experience in monitoring the progress of an educational program utilizing various indicators.

E4.4 Product Evaluation
Objective: to introduce the student to the techniques and questions related to the product aspects of an evaluation process from a multi-disciplinary basis.

Developing Criteria for Evaluation

E5. Decisions on Objectives
Objective: to have the student judge the strengths and weaknesses of plans and procedures of project objectives.

E6. Application of Values in Evaluation
Objective: To aid students in developing an understanding of the concept of judgment, and in developing the skill to apply concepts of judgment, including both the identification and the evaluation of judgmental statements and the grounds for those statements.

E7. Assessing Social Relevance of Goals
Objective: to aid students in determining the priority of goals relevant to a particular social setting.

E8. Identify Values Implicit in System Goals
Objective: to develop the student's ability to identify and describe latent and manifest goals in the system.

E9. The Nature of Norms and Standards
Objective: to have the student be able to differentiate between norms and standards and to judge whether norms or standards are applicable to the objective of the evaluation.

E10. Establishing Standards
Objective: to provide students with the opportunity to judge how to determine whether the objectives of the evaluator have been obtained and to develop competency in selecting appropriate levels of criteria for standards.

Data Collection

E11. Designing and Selecting Indicators of Progress in Educational Programs
Objective: to provide the student with the skills to formulate and choose progress indicators so that outcomes of the system can be measured.

Decisions in Evaluation

E12. Planning Decisions
Objective: to provide trainees with skills, competencies, and opportunities to judge strengths and weaknesses of plans and procedures of project objectives.

E13. Monitoring Decisions
Objective: to provide students with skill in information processing techniques necessary to provide decision-makers with data to decide whether to continue, modify or terminate the activity or process evaluation.

E14. Input-Process-Output Linkages
Objective: to enable the student to make decisions and explanations about outcome as a junction of plans, procedures, and resources through the utilization of data.

E15. Outcome Interpretations and Implications
Objective: to develop trainees' skills in deciding what recommendations to make as a result of outcome evaluation.

Research Modules (R)

Problem Formulation

R1. Interpreting Studies
Objective: to provide students with skills and competencies necessary to examine studies in light of the data presented.

R2. Drawing Implications
Objective: to enable the trainee to read prior research efforts and assess their implications.

R3. Identify Researchable Problems
Objective: to assist students in using various techniques in isolating problems that are researchable.

R4. Significance of Problems
Objective: to provide trainees with the judgmental skills to examine current needs and priorities and determine whether a research effort will meet such needs and priorities.

R5. The Role of Theory
Objective: to help the student understand the importance and application of theory in solving educational problems.

R6. Hypothesis Generating Techniques
Objective: to introduce the concept of hypothesis formulation as a product of research to the student so that he will be able to utilize existing quantitative and non-quantitative skills and generate testable hypotheses.

R7. Hypothesis Testing Techniques
Objective: to introduce students to the skills and concepts required in the process of testing hypotheses utilizing the appropriate disciplinary procedures.

R8. Hypothesis Formulation
Objective: to enable the student to take a researchable problem and use existing theory to identify hypothetical relationships between variables as suggested by the theory and the problem.

R9. Specifying Alternative Outcomes
Objective: to enable the student to identify likely outcomes of a study and state a rationale for each.

Research Design

R10. Types of Research
Objective: to introduce students to the various types of research strategies and describe their similarities and differences.

R11. Descriptive Research
Objective: to introduce students to the techniques utilized in the process of doing descriptive research, including normative, historical and other disciplinary strategies.

R12. Experimental Research
Objective: to introduce students to the strategies necessary to carry out experimental research.

R13. Treatment Design and Selection
Objective: to provide students with knowledges, skills and competencies to isolate treatments related to a researchable problem.

R14. Validity of Research Designs
Objective: to enable trainees to identify and describe the threats to the internal and external validity of research designs.

Drawing of Conclusions

R15. Results
Objective: to develop the trainee's ability to organize data so as to present the results of his study clearly.

R16. Conclusions
Objective: to enable the trainee to make conclusions which are consistent with the data.

R17. Interpretation
Objective: to provide experience and develop the skill of taking the results and conclusions from research studies and interpreting them in light of existing theory.

Example of SCERT Element

Figure 4.3 presents a more detailed description of the activities occurring in one element of the SCERT program. The term "element" is used to refer to a cluster of related modules that can be classified under a single heading, as exemplified by the section on Module Objectives. The Interpersonal Skills element presented is a series of modules intended to develop human relations skills in prospective evaluation and research personnel. Modules C5 through C10 are displayed in a flow diagram format to convey what might be a reasonable path through this element. The specific module objectives for the Interpersonal Skill element are included in a following list to provide a greater understanding of the relationship of modules which cluster together.

Since the task outline for the design phase was to conceptualize and describe but not totally develop an operational program for the training of evaluation and research personnel, only one module is provided to exemplify what would occur during Phase II. Even this module is only descriptive in that very little of the instructional material required is currently available.

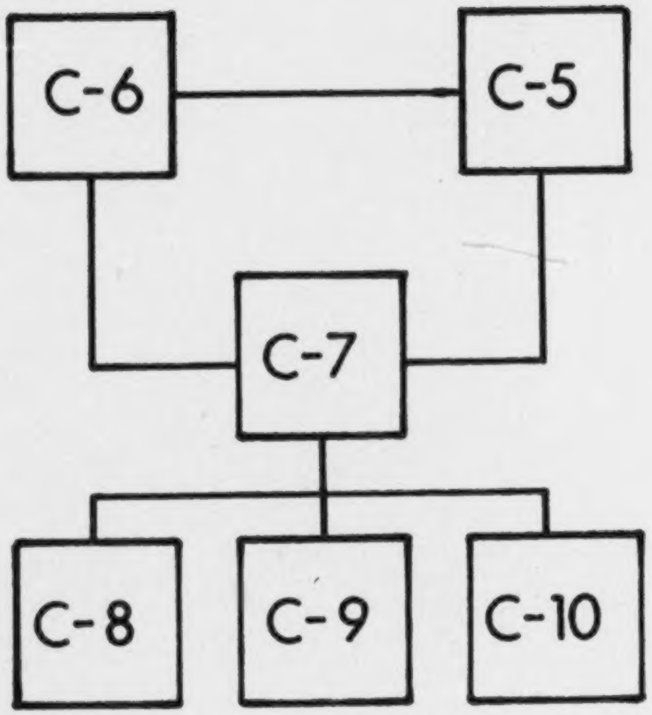
Each module to be designed will include the six major headings as provided in Figure 4.4. The specificity with which instructional experiences will be designed is depicted by the outline of Module C7 and the activity flow chart of this module as presented in Figure 4.5. The description of instructional activities in each module can be translated into a format which demonstrates the relationship of activities to a projected time sequence. Each numbered block in the flow chart of module activities refers to a specific activity listed under the "Example of a Detailed SCERT Module."

A reading of the sections on the support systems and the Scenario will provide an explanation of and a feeling for the operations of SCERT program.

Module Objectives for Interpersonal Skills Element

C5. T-Group Training

1. The general purpose of this module is to increase the student's intrapersonal and interpersonal effectiveness through T-group sensitivity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Interpersonal Skills Element of the SCERT Program

Figure 4.3

C5. T-Group Training

C6. Perceiving Human Relations Problems

C7. Increasing Awareness of Self as a Member of the Educational System

C8. Anticipating Predicted and Unpredicted Barriers

C9. Identifying and Rating of Resources Available

C10. Identifying Variables within the Setting that Effects Change

Figure 4.4 Module Summary for Interpersonal Skills Element

training. The general objective of this module should prepare the student to: (a) participate in intensive interaction with his student peers, (b) become increasingly aware of the impact which his behavior has on others, and the impact their behavior has on him.

If these broad objectives are achieved, the student should be able to do the following:

A. Identify his reaction to specific peer behaviors
B. Provide others in his group with descriptive feedback
C. Seek feedback about his behavior in the group
D. Act in a manner which he perceives as being congruent with his feelings.

C6. Perceiving Human Relations Problems

The general purpose of this module is to make the student aware of the various types of human relations problems which could threaten the success of the program through T-grouping and the study of groups, and human interaction.

C7. Increasing Awareness of Self as a Member of the Educational System

The general purpose of this module is to increase the trainee's understanding and skill with regard to his role as a professional or paraprofessional within the total educational system.

C8. Anticipating Predicted and Unpredicted Barriers

A. The purpose of the module is to make the student aware of predicted barriers and to develop the skill in anticipating predicted and unpredicted barriers which threaten the success of the program.
B. The student will then be able to provide immediate feedback for the use in making decisions about modification of the plan, procedures or resource allocations.

C9. Identifying and Rating of Resources Available

The general purpose of this goal is to make the student aware of the various ways of identifying and rating available resources (human, material and financial) and/or potential sources of support. The student will be able to accomplish this through simulated exercises where he will have to identify the resource, rate it, and suggest other potential resources for support.

C10. Identifying Variables Within the Setting That Affect Change

The general purpose of this module is to increase the student's awareness, understanding and skills with regard to the socio-psychological variables operating in educational settings that facilitate or impede change. The general objectives of the module are:

A. Describe the socio-psychological (e.g., norms, values, etc.) parameters applicable to all educational groups.
B. Formulate a conceptual framework within which he might gain a better understanding of the socio-psychological dimensions of educational groups such as resistance, cohesiveness, norm identification, leadership roles, etc.
C. Use selected methods of diagnosing educational groups.

Example of a Detailed SCERT Module

C7. Increasing Awareness of Self as a Member of the Educational System

I. Prerequisites: C5 T-Group Training
C15 Listening Skills

II. Placement of Module: Beginning of program for all three levels.

III. Estimated Time: Trainee time - 18 hours
Staff time - 3 hours
Instructional Support Staff time - 1 hour

IV. Operational Objectives: the general purpose of this module is to increase the trainee's understanding and skill with regard to his role as a professional or a paraprofessional within the total educational system. The general objectives of this module should prepare the trainee to do the following:

A. Describe various patterns of educational organizations and the professional's and paraprofessional's role in each.
B. Describe various responsibilities which are part of these roles.

If these broad objectives are achieved, the trainee should be able to do the following:

A. Identify by producing a mediated product describing the characteristics which distinguish decision making models of educational organizations.
B. Contrast the professional's and paraprofessional's roles in each decision making educational organization.
C. Describe the responsibilities which might be part of these roles.

V. Modular Activity Flow Diagram: See Figure 4.5.

VI. Description of Instructional Activities:

1. Pre-test to determine existing awareness of trainee as a member of the educational system.
2. Cassette presentation: What to look for in distinguishing various organizational operations. This topic is related to:
    1. Decisions and decision-making
    2. Interaction patterns, etc.
3. The trainee will maintain a log of decisions and decision related behavior for two (2) weeks. The presentation preceding this activity serves as an advance organizer.
4. The trainee will summarize the two week log using his own techniques.
5. A small group session will be held at which time the log summaries of each trainee will be compared. Various additional techniques are suggested and program modules relative to other techniques are identified.
    a. Discussions will focus briefly on the individual within the organization as a change agent.
        1. independent evaluator and researcher
        2. dependent evaluator and researcher
        3. paraprofessional
6. An audio and/or video tape presentation of the organizational relationships of various educational agencies and personnel will be provided.
7. Each trainee will produce a mediated product depicting his understanding of his role as a change agent in various decision-making models.
8. A posttest to assess the accomplishment of the objectives will be taken by each trainee.
9. If the posttest indicates a need for the student to repeat certain aspects of the module or engage in some other remedial work, a remedial module will be taken and/or a conference (teleconference) held between the trainee and his advisor.

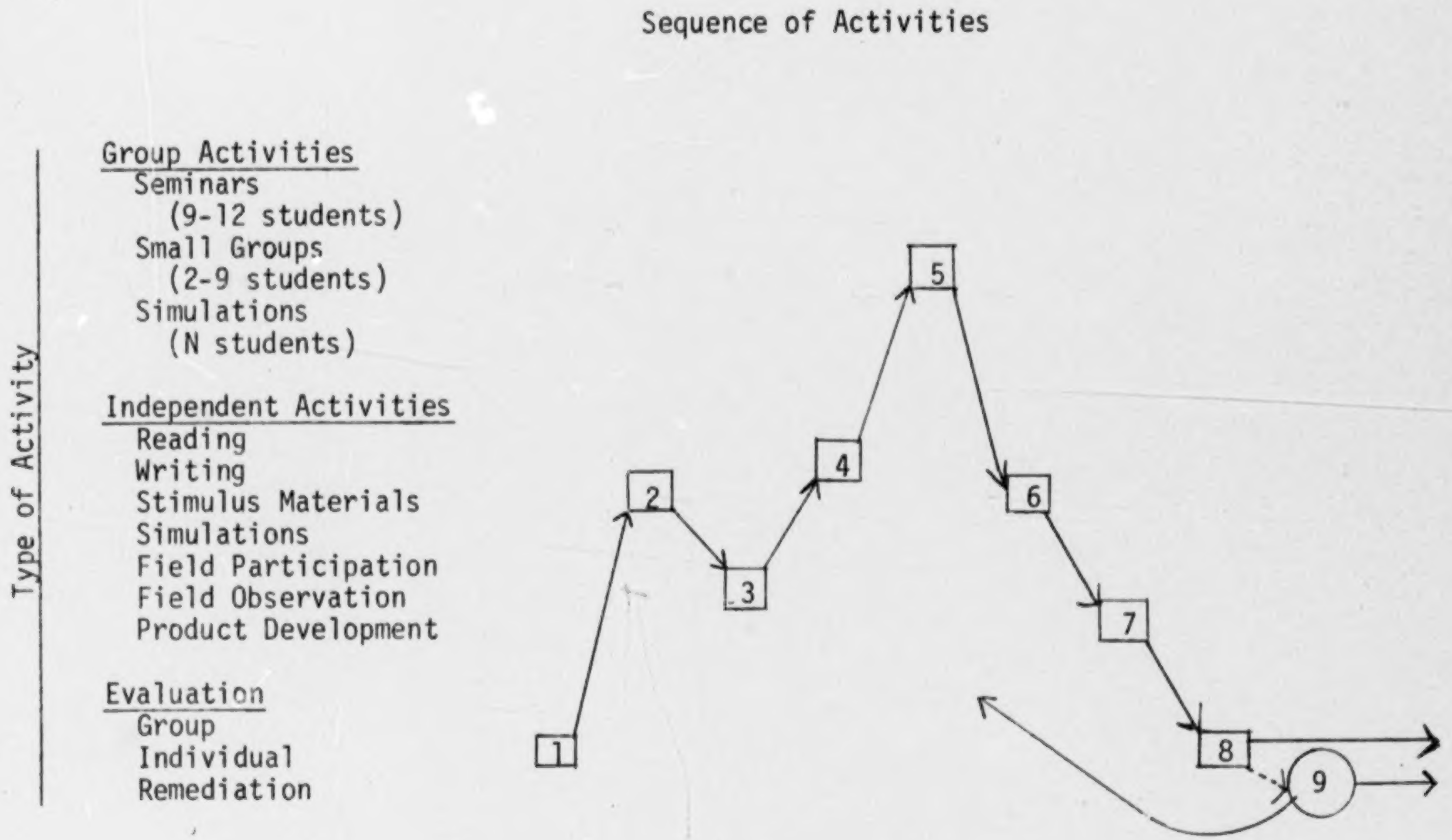

Sequence of Activities
Type of Activity
Group Activities
Seminars
(9-12 students)
Small Groups
(2-9 students)
Simulations
(N students)
Independent Activities
Reading
Writing
Stimulus Materials
Simulations
Field Participation
Field Observation
Product Development
Evaluation
Group
Individual
Remediation
1
2
3
4
5
6
7
8
9

Figure 4.5. Flow Chart for Module C7

Support Systems

In order for the proposed program to operate effectively and demonstrate operationally the concepts it is attempting to convey to students there must be provisions made for monitoring and evaluating the program, students and modules. There is little empirical information available at the present time on the process of training evaluators (or even researchers, developers and disseminators). Educators have some speculations on what they should be doing (AERA Task Force Reports) but little or no knowledge of how to go about the task of training. University training programs have long neglected evaluating their training activities in an effort to assess their effectiveness. Travers (1962) points out that "sometimes it can be suspected that most university curricula represent simply a set of topics about which faculty like to talk."

This condition can no longer be tolerated,

> All social institutions, or sub-systems, whether medical, educational, religious, economic or political are required to provide proof of their legitimacy and effectiveness in order to justify society's continued support. . .The current desire to judge the worthwhileness of such programs is but one aspect of modern society's belief that many of its social problems can be met most efficiently through planned action based on existing knowledge, including the design of better solutions in step with advanced knowledge. (Suchman, 1967)

In effect social activity like training programs must demonstrate rather than assert their worth.

The quality of any program is based upon the decisions made about possible alternatives. In the past training programs were designed, implemented and maintained on the basis of personal judgments, tradition and authoritative opinion rather than relevant information. If programs are to be based on reliable and valid data, provisions must be made for the availability of such data. In essence, provisions must be made for assessment and measurement before, during and after the implementation of the program and each sub-system of the program. It is the function of the Support Systems to provide such data.

Measurement and Evaluation

Each module and course in the program will have specified the minimum pre-assessment and post-assessment competencies. Since each module may require a different competency, the measurement of pre and post status will range from written reports, essays and tests to behavioral observations. During the developmental stages of Phase II (operations), one important task will be to develop the measuring devices to be employed in each module. In addition to module assessment devices, instruments will be developed to assist in the guidance of students through the program.

Some questions that might be asked of the program's operation might be:

1. Are the trainees effective in promoting change in school situations?
2. What are the behaviors that characterize the trainees?
3. What knowledges and skills do the trainees possess at the end of the program?
4. What do the trainees learn in the modules, or combination of modules?
5. What kinds of individuals enter the program?
6. What are the differentiated effects of program activities on different kinds of trainees?

Question 1 is the only one which addresses the direct purpose of the program--namely bringing about innovation in education--but which cannot be answered satisfactorily until students have completed the program. All other assessments of program performance only yield proximate criteria of the program's effectiveness. It is for this reason that "formative" evaluation (Scriven, 1967) procedures will be utilized to assess the developing program. At various stages of development "Summative" evaluations will also occur. For the development of stages and for program modification, formative evaluation will prevail.

Program Support System

The process of developing a program as specified in this report requires a series of steps, each needing overlapping but discrete skills. Goals of the program must be explicated and these ideas analyzed in terms of theory and practice. A rationale must be developed from this analysis so that a design can be created leading to the specifications necessary for construction to occur. After the product is created it must be tested in the field against the specifications and modified if criteria are not met.

The Program Support System was designed to manage and facilitate the development of program elements. Figure 4.6 illustrates the stages in the

PROGRAM SUPPORT SYSTEM

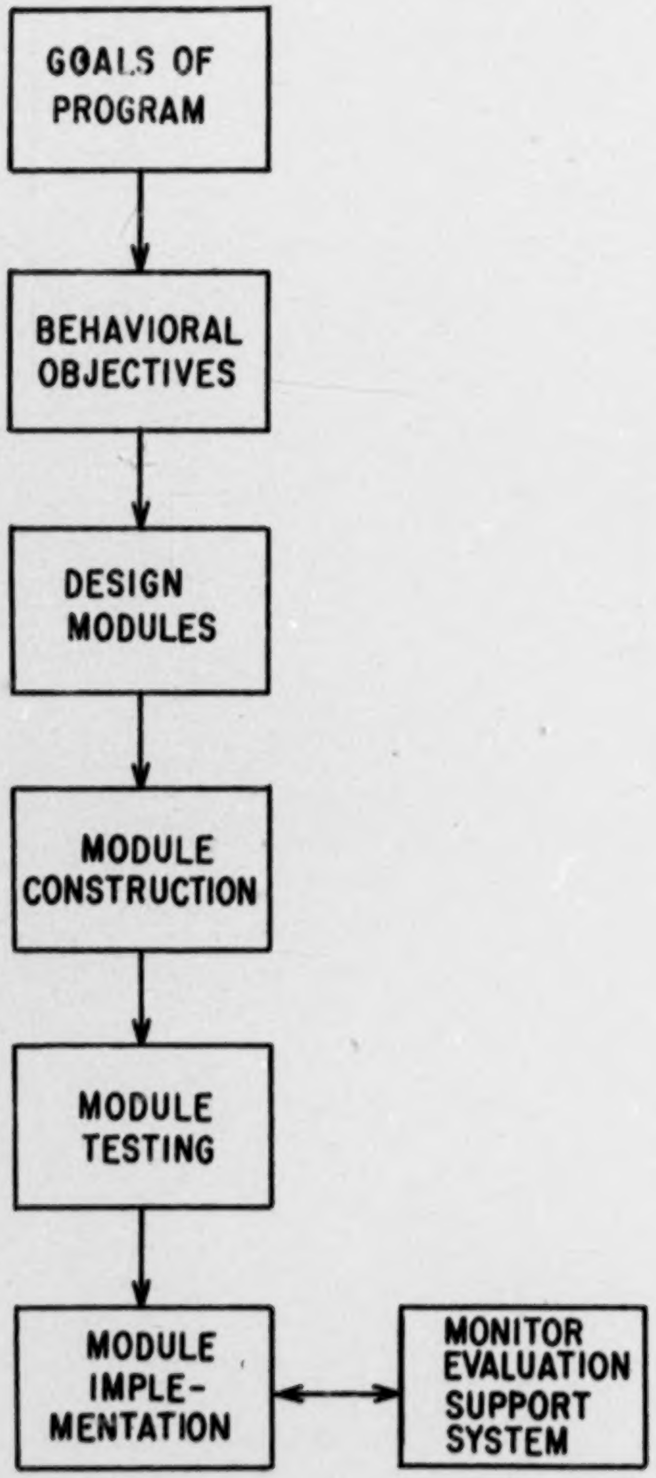

GOALS OF PROGRAM
BEHAVIORAL OBJECTIVES
DESIGN MODULES
MODULE CONSTRUCTION
MODULE TESTING
MODULE IMPLE-MENTATION
MONITOR EVALUATION SUPPORT SYSTEM

FIGURE 4.6

process of developing the instructional content. These stages show a movement from the abstract to the operational levels of program development.

Taking the six stages present in Figure 4.6, one can operationally describe the development of modules using a flow charting process. The first step in this process is the identification of the broadly defined goals of the overall rationale for the program. Another aspect of this phase is the specification of behavioral objectives. Second, and equally important, is the specification of how these objectives might be realized on the part of students. From these statements of behavioral performance emerges the design for modules. Once designed, the modules have to be constructed and made operational. These operational modules have to be field tested before final implementation occurs.

It is important to note here that no module is ever finally developed. As time changes and conditions vary each module will be modified to meet current needs. This modification of an implemented module will occur based on feedback from the Monitor-Evaluation Support System. Since students and faculty advisors will continually assess student performance in modules, any difficulties that affect major portions of the students will be corrected by referring modules to be modified, changed or deleted.

The following pages describe in greater detail the operational steps in the Program Support System. The detailed description will begin with "Design Modules" since an explanation of program goals and objectives have already been indicated.

Starting with a statement of the behavioral objectives, each module design will necessitate the examination of that objective from the psychological, sociological, anthropological, political and economical perspective. Figure 4.7 indicates this relationship and specifies it as a necessary step in the direction of isolating inputs from the varied disciplines that may be modules in themselves. For example, a behavioral objective might be: students will be able to isolate variables given descriptions of varied situations or problems.

The process of identifying variables may vary from psychology through economics, and it seems important that the evaluator has at his disposal the skills, knowledges and techniques presently available within disciplines.

It is therefore necessary to filter modules being designed through the perspective of the disciplines so the commonalities and differences can be identified. Once these perspectives are outlined, it may be clear that what is needed is not one module but a series of modules that deal with the same skill or competency but differ as to their disciplinary application.

As Figure 4.7 indicates, the next stage in module development is to specify the "instructional experiences." These experiences will vary,

MODULE DESIGN / PROGRAM SUPPORT SYSTEM

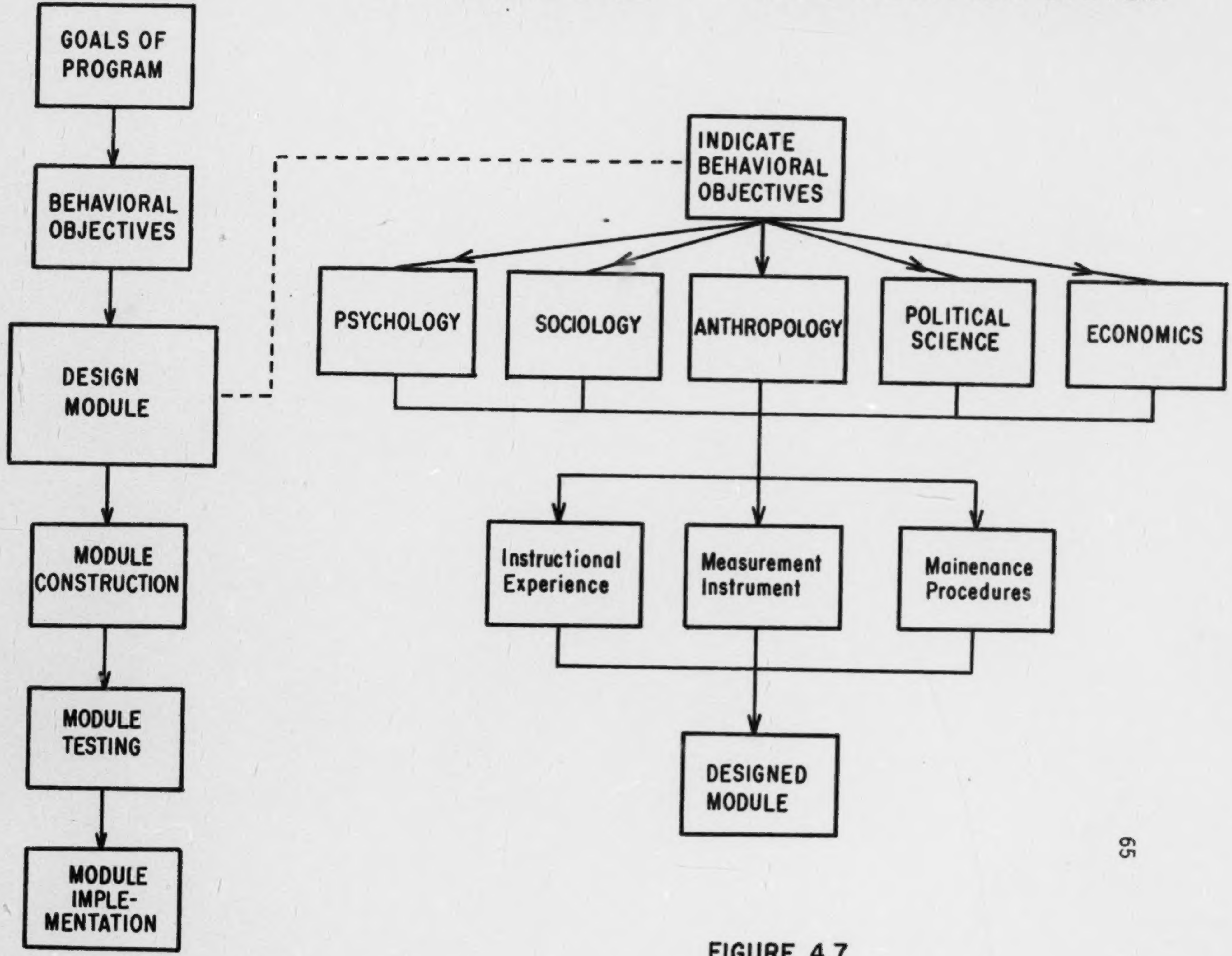

GOALS OF PROGRAM
BEHAVIORAL OBJECTIVES
DESIGN MODULE
MODULE CONSTRUCTION
MODULE TESTING
MODULE IMPLE-MENTATION
INDICATE BEHAVIORAL OBJECTIVES
PSYCHOLOGY
SOCIOLOGY
ANTHROPOLOGY
POLITICAL SCIENCE
ECONOMICS
Instructional Experience
Measurement Instrument
Mainenance Procedures
DESIGNED MODULE

FIGURE 4.7

depending upon the complexity and level of achievement called for by the module design personnel, from either the very simple (e.g., Read and Recall) to the very complex (application of skills, knowledges and feeling states in real decision-making situations). The inputs for instructional experiences will come from all members of the cooperative. It is important to not only have their involvement at the goal and behavioral objective setting levels but also on the design of experiences they see as relevant to the training of evaluation and research personnel in education.

Another task in the process of module design is the specification of measuring instruments which actually attempt and accomplish the job of assessing student performance. Since this program depends on the assessment of competency and skill levels prior to and immediately after instructional activities, it is imperative that those instruments be reliable and valid.

During the design of instructional modules it is also important to specify the maintenance procedures necessary for successful implementation of a module. The maintenance element is primarily concerned with the logistics of instruction. In this capacity it functions to provide services and clerical support which are necessary to the successful operation of the program. It is also the responsibility of the maintenance procedures for the specification and ultimate purchase of various supplies and equipment needed for attainment of program and module objectives.

The integration of the specified instructional experiences, measuring instruments, and maintenance procedures yields a designed module. The specifications outlined in the design will be utilized in the next stage of development. The module design step is analogous to an architect's plans or blueprints for a structure. The next step is the process of building based on the plans or specifications.

Figure 4.8 presents the process and resources necessary to construct a module. Taking the specification of behavioral objectives and instructional experiences, the developer fabricates a module based upon its existing design. The location of or production of needed materials is begun. Decisions are made concerning the usage of printer materials, non-book materials, such as film, video and audio tape, computer terminals, simulation and gaming materials. The maintenance procedures would be called upon for staffing needs such as projectionists, technicians, computer programmers, material design and production specialists. The maintenance function would also be concerned with the facilities necessary for implementation of a module.

MODULE CONSTRUCTION / PROGRAM SUPPORT SYSTEM

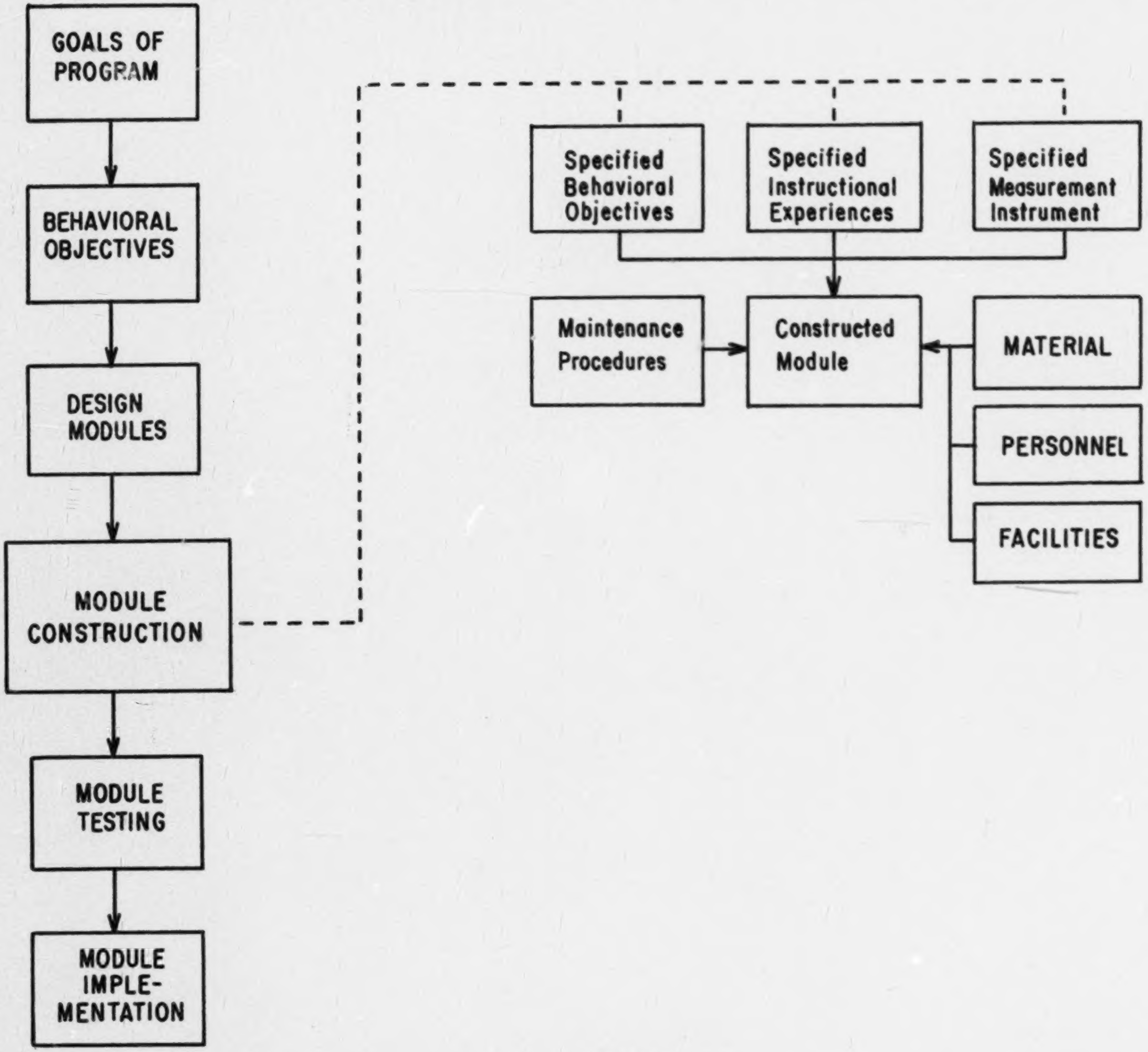

GOALS OF PROGRAM
BEHAVIORAL OBJECTIVES
DESIGN MODULES
MODULE CONSTRUCTION
MODULE TESTING
MODULE IMPLE-MENTATION
Specified Behavioral Objectives
Specified Instructional Experiences
Specified Measurement Instrument
Maintenance Procedures
Constructed Module
MATERIAL
PERSONNEL
FACILITIES

FIGURE 4.8

The actual construction of the module will occur through the interaction of the maintenance procedures function and the needed materials, personnel and facilities. The measuring instrument(s) are constructed based on the behavioral objectives and instructional experiences and directly reflect, because of their common beginning point, the same desired experience.

Once a module is designed and then constructed it is ready to be tested. Starting with the first administration of the module, Figure 4.9 illustrates the concerns and decisions to be made in the process of testing modules. While the module is being taken by students the Monitor-Evaluation Support System (see below) collects and maintains data in its computerized files to be used with personal feedback from students and staff in the process of evaluating module effectiveness. The margin of error that is acceptable to the program development team will to a large extent determine the amount of resources that need to be put into the testing of the modules. The complexity of the objectives and instructional experiences are also major factors. What should be pointed out, however, is that if valid and reliable data are not used for evaluating modules, then considerable damage could occur to the individuals and institutions involved.

Each module will be evaluated relative to seven factors. The question raised of each module is whether it is functioning properly in these seven areas. For example, the question relating to "facilities" would be one of whether the facilities used during the module were adequate or not and why. If the answer to this or any other area were "no", then the question of whether it is a design problem or a construction problem would be addressed. A solution would be suggested and another pass of the module would occur. This procedure would continue until all of the problems were resolved. An indication of resolution would be an affirmative answer to questions of successful operation. At this point a developed module would be ready for implementation.

The implementation of individual module or series of modules is highly dependent on the overall plan for implementing the SCERT program. It is anticipated that the initial stages of operating will involve mostly developmental tasks. Figure 4.10 shows the relationship between development and operations over the initial three years of program development.

The extensive time and energy output for development is to assure training success and the exportability of program elements. It is anticipated that a successful development program will enable other institutions and organizations to use SCERT's transportable components to enhance their activities and produce more effective evaluators, team workers, and researchers.

MODULE TESTING / PROGRAM SUPPORT SYSTEM

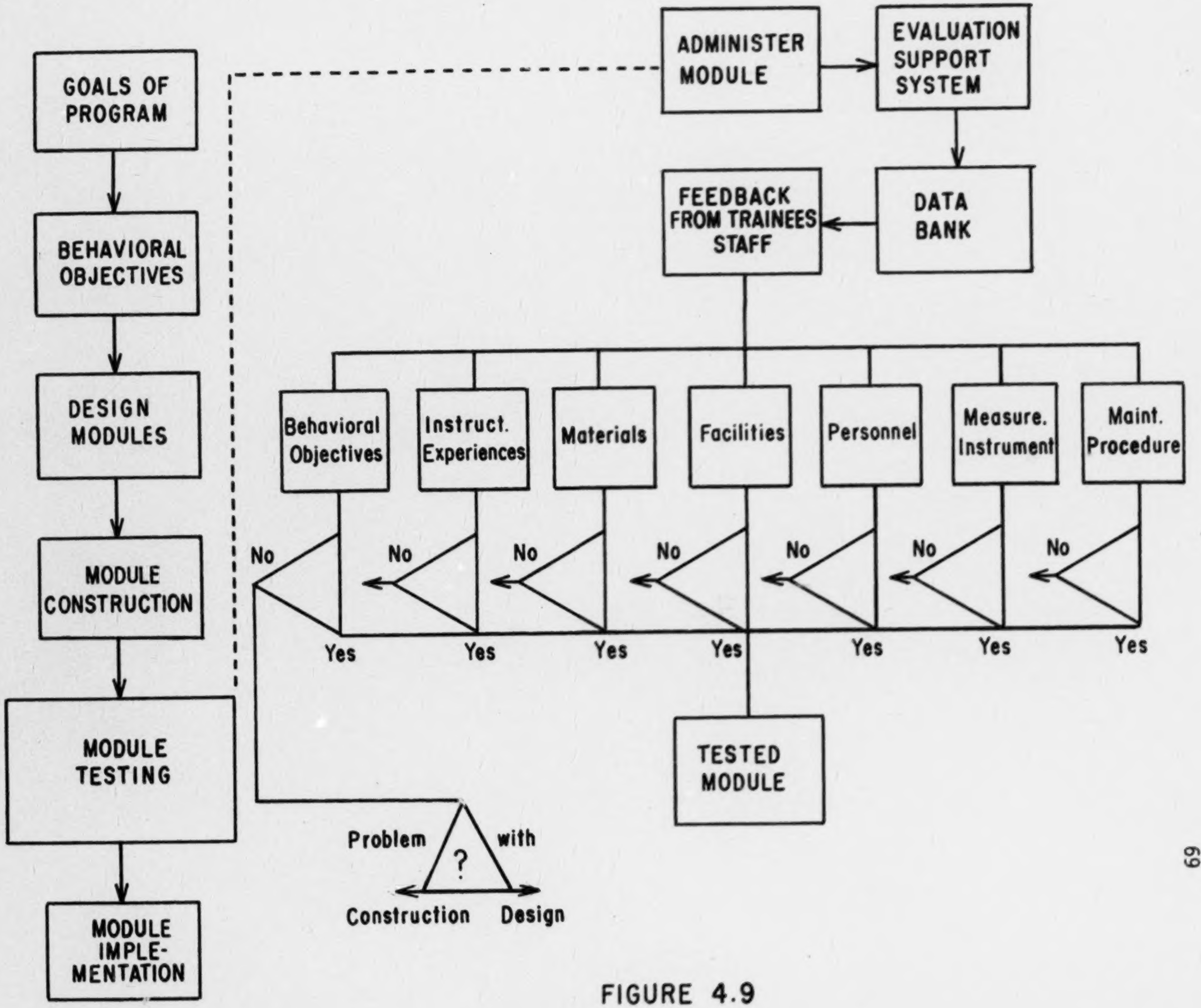

GOALS OF PROGRAM
BEHAVIORAL OBJECTIVES
DESIGN MODULES
MODULE CONSTRUCTION
MODULE TESTING
MODULE IMPLE-MENTATION
ADMINISTER MODULE
EVALUATION SUPPORT SYSTEM
DATA BANK
FEEDBACK FROM TRAINEES STAFF
Behavioral Objectives
Instruct. Experiences
Materials
Facilities
Personnel
Measure. Instrument
Maint. Procedure
No
Yes
TESTED MODULE
Problem
?
with
Construction
Design

FIGURE 4.9

RELATIONSHIP BETWEEN DEVELOPMENT AND TRAINING

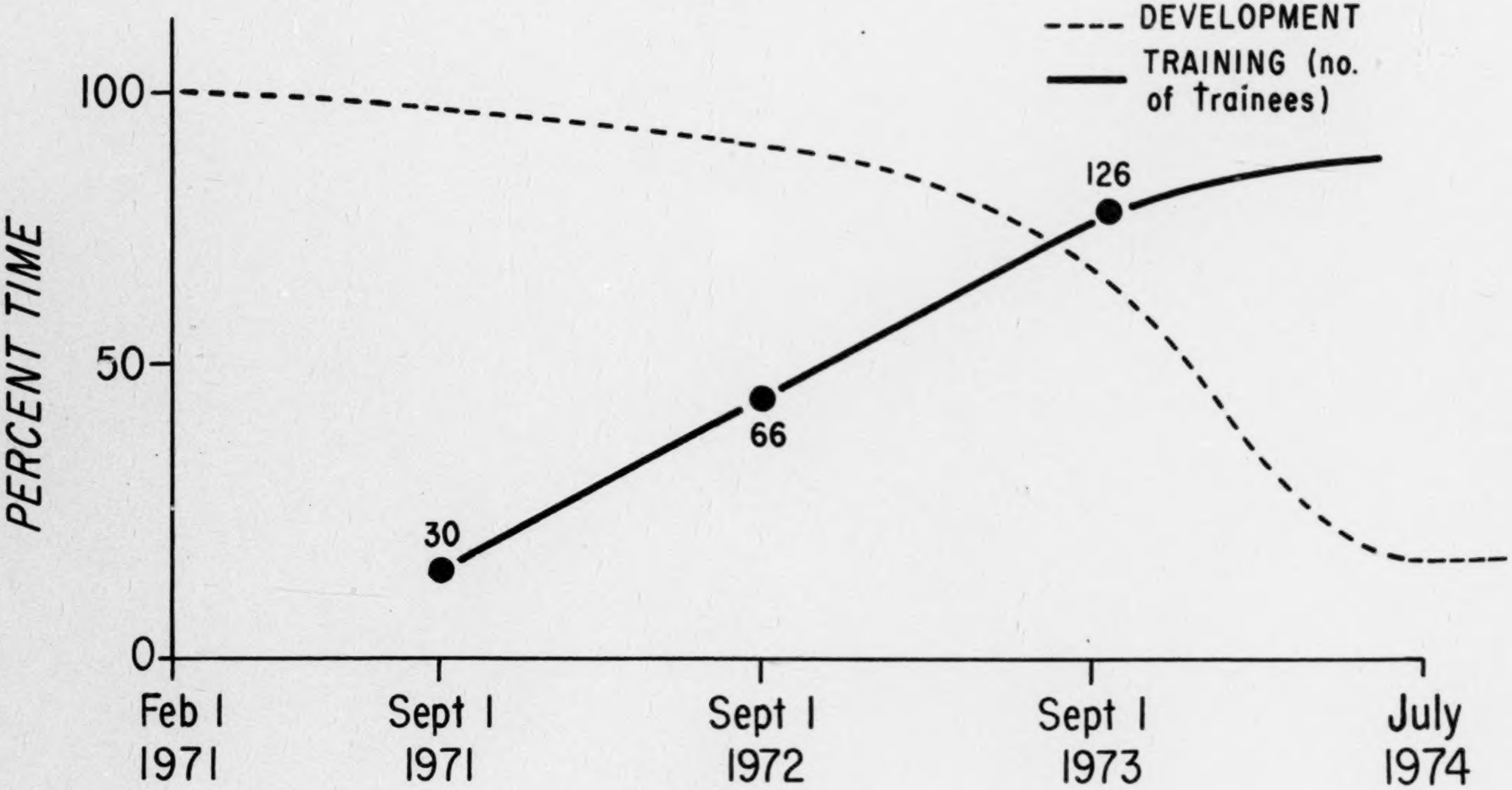


FIGURE 4.10

Once the modules are introduced into the program, the Monitor-Evaluation Support System maintains close surveillance of student and module performance. Not only does this support system survey, but it provides data to assist in the renewing process of module maintenance. Modules are expected to change as new understandings, knowledges and skills become available.

Monitor-Evaluation Support System (MESS)

The Monitor-Evaluation Support System (Figure 4.11) operates on a computerized information retrieval and analysis system. This data system as currently designed is for use on any remote access computer system using "A Processing Language"(APL). Users can enter and request information on student progress from any of the 75 existing (hardware and portable) remote terminals on the Syracuse University campus. Additionally, using data phones, data can be entered and requested from any place having telephone service. The capability of remote input and output permits the support systems to follow students out into the field. The transportability of the modules and the logic of having modules taken at field locations lend themselves to the interactive system currently being designed.

The following is a description of the activities and information flow utilized in the Monitor-Evaluation Support System. Any successful use of MESS will necessitate an understanding of how this system operates. It is for this reason that all trainees will be given a series of orientation modules which will develop understandings and skills necessary to operate the MESS.

Once the orientation process is over, each student will be assigned an advisor who will be a representative of one of the consortium's constituents. The advisor and student will have the option of requesting a new partner. This is to assure that unforeseen personality clashes can be avoided as soon as possible. The student and advisor will work together in specifying modules or series of modules for the student to take using the following information:

--student stated interests
--student/faculty specified need
--prior performance (past modules; admissions' tests, etc.)
--counselor experience

Each module will have a pretest to assess existing skills, knowledges, etc. Based on the student's performance he may pass and move on to another module (if a series of modules were outlined in his conference) or not pass and move on to the activities of the module. The student would enter his results

MONITOR-EVALUATION SUPPORT SYSTEM

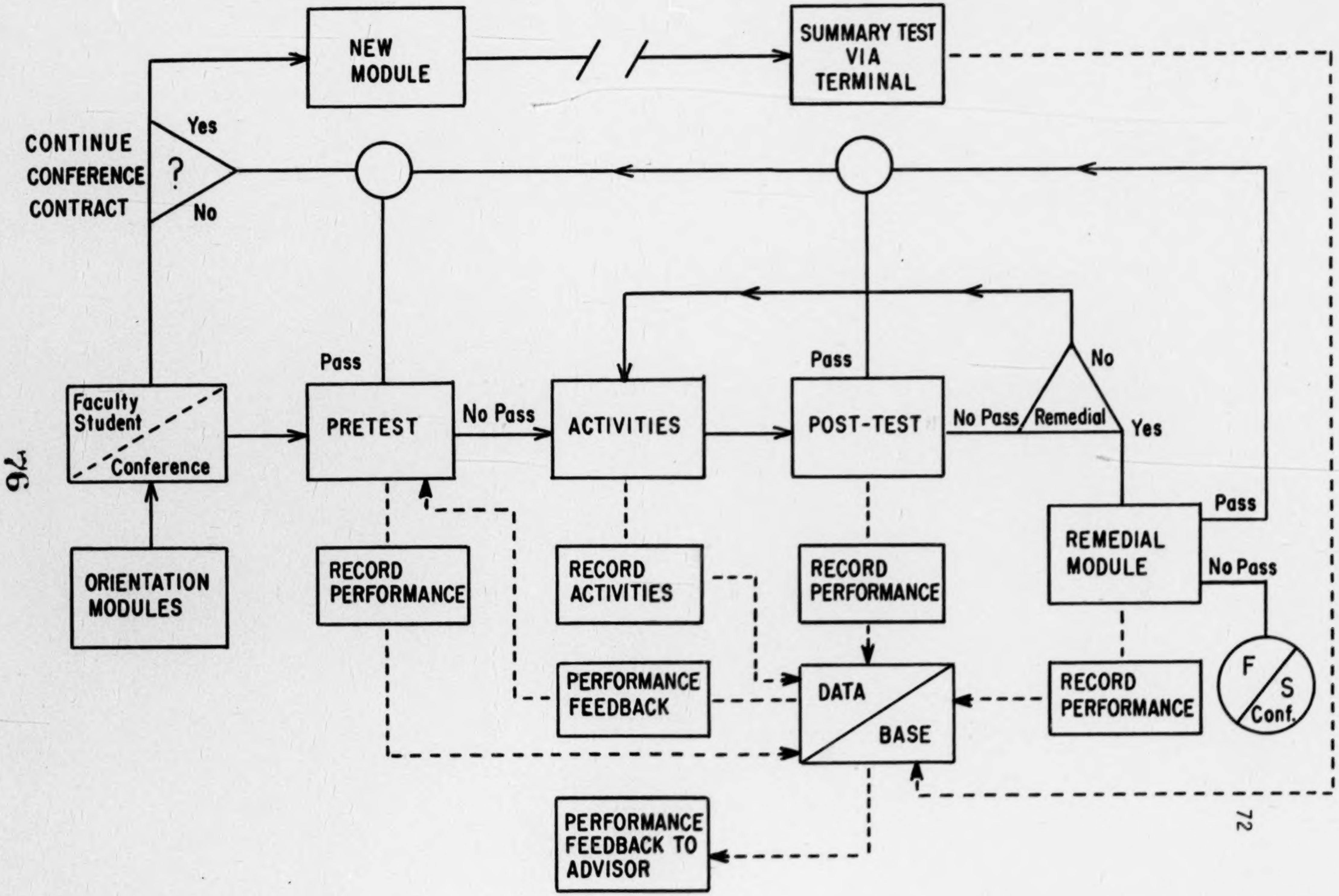

NEW MODULE
SUMMARY TEST VIA TERMINAL
CONTINUE CONFERENCE CONTRACT
?
Yes
No
Pass
Pass
Faculty Student
Conference
PRETEST
No Pass
ACTIVITIES
POST-TEST
No Pass
Remedial
No
Yes
ORIENTATION MODULES
RECORD PERFORMANCE
RECORD ACTIVITIES
RECORD PERFORMANCE
REMEDIAL MODULE
Pass
No Pass
PERFORMANCE FEEDBACK
DATA BASE
RECORD PERFORMANCE
F
S
Conf.
PERFORMANCE FEEDBACK TO ADVISOR

FIGURE 4.II

into his temporary file space via the computer terminal and forward the test itself to his advisor. The computer would indicate to the student his performance relative to others who have taken this module.. It would also relate any other contingent information to him which may aid him in the activities he is about to undertake.

In certain modules the student would have the option as to which mode of instruction he would like to undertake. For example, he may select to look at a film instead of reading selected material or direct observation. After viewing the film, the student can select other media, or he can skip on to other activities. Progress through the activities will be monitored using the Wisconsin Instructional Module (WIM) cards. These cards are formatted in such a manner so as to guide and facilitate progress through the module.

The WIM cards presented in Figure 4.12 provide an example of how each student will monitor his progress through module activities. Detailed instructions on their use will be provided each student. The general rules to be followed in using the WIM cards are:

a. Do an activity only if its upper boundary is all colored,
b. As soon as you have done an activity, color its box,
c. If an arrow leads from the box that you are coloring to another box, color that other box also, and
d. If a box which you are coloring contains special instructions, follow those instructions.

Data on performance in activities, when appropriate, will be read into the student's computerized file. This will permit advisors to monitor student activities in modules. These data can also be analyzed to indicate which activities tend to be chosen the most; which produce the best results, etc. At the conclusion of module activities the student is required to take a posttest, the purpose of which is to determine the extent of gain in knowledge, skills, etc. Again the student will enter his performance into the computer and will also forward test copies to his advisor. If the student passes the posttest, he moves on to other modules or another conference with his advisor. An unsuccessful attempt of the posttest will force the student to decide on whether to return and do the module activities again or move to a remediation module. The remediation module is strictly designed to help students who had trouble with the regular module. When this module is completed successfully, the student then moves on to other modules. If he should not successfully complete the remediation module, the advisor and student meet to discuss the problem and to identify modules or sequences that may be more helpful.

WISCONSIN INSTRUCTIONAL MODULE CARDS

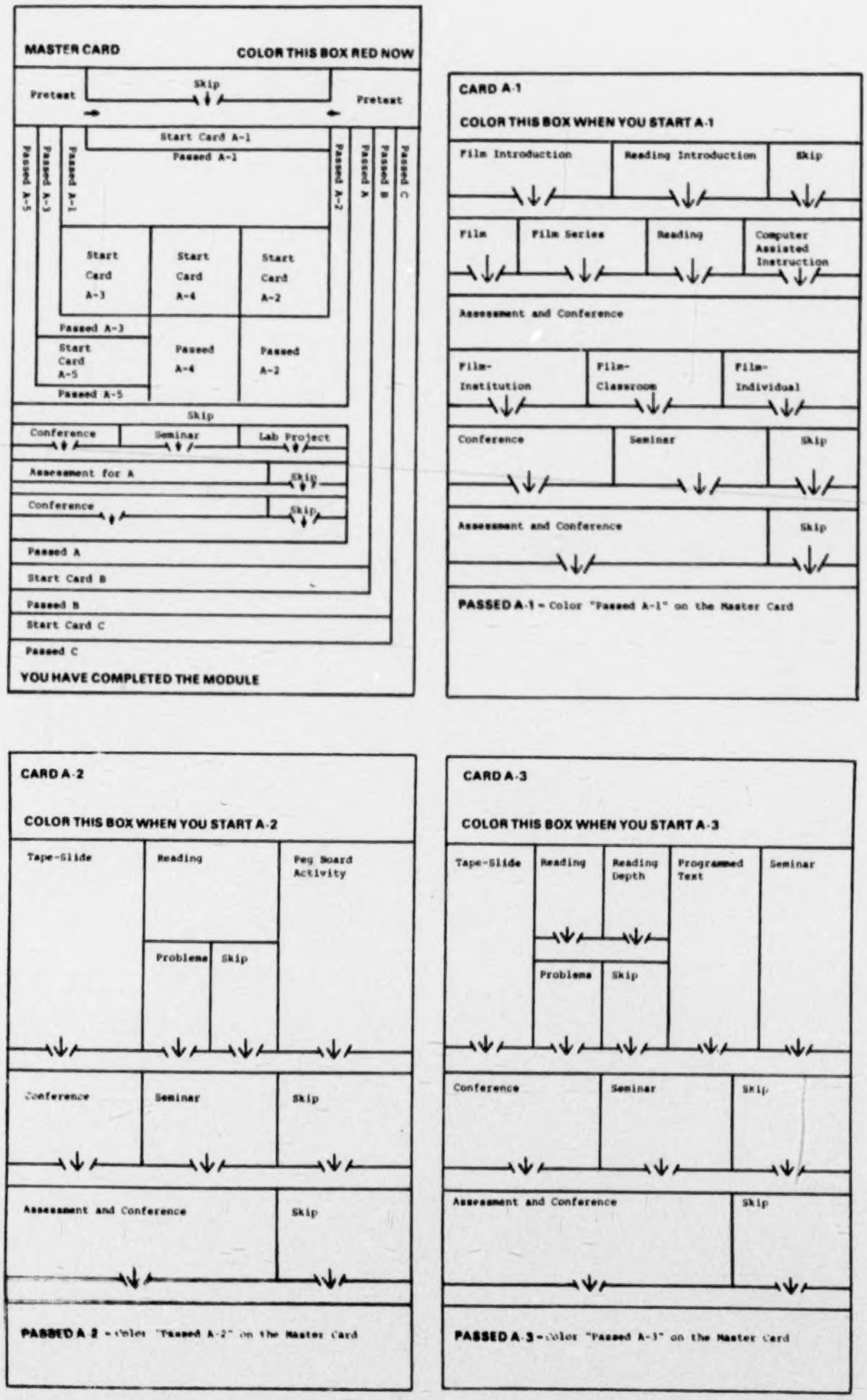

MASTER CARD
COLOR THIS BOX RED NOW
Pretest
Skip
Pretest
Start Card A-1
Passed A-1
Passed A-5
Passed A-3
Passed A-1
Passed A-2
Passed A
Passed B
Passed C
Start Card A-3
Start Card A-4
Start Card A-2
Passed A-3
Start Card A-5
Passed A-4
Passed A-2
Passed A-5
Skip
Conference
Seminar
Lab Project
Assessment for A
Skip
Conference
Skip
Passed A
Start Card B
Passed B
Start Card C
Passed C
YOU HAVE COMPLETED THE MODULE
CARD A-1
COLOR THIS BOX WHEN YOU START A-1
Film Introduction
Reading Introduction
Skip
Film
Film Series
Reading
Computer Assisted Instruction
Assessment and Conference
Film-Institution
Film-Classroom
Film-Individual
Conference
Seminar
Skip
Assessment and Conference
Skip
PASSED A-1 - Color "Passed A-1" on the Master Card
CARD A-2
COLOR THIS BOX WHEN YOU START A-2
Tape-Slide
Reading
Peg Board Activity
Problems
Skip
Conference
Seminar
Skip
Assessment and Conference
Skip
PASSED A-2 - Color "Passed A-2" on the Master Card
CARD A-3
COLOR THIS BOX WHEN YOU START A-3
Tape-Slide
Reading
Reading Depth
Programmed Text
Seminar
Problems
Skip
Conference
Seminar
Skip
Assessment and Conference
Skip
PASSED A-3 - Color "Passed A-3" on the Master Card

FIGURE 4.12

Once a series of modules or selected independent modules are completed, a summary test is given using the remote terminals. This test covers the material handled in the modules just taken. Immediately after interacting with the computer the performance results and comparison analyzed are presented to the student for his analysis.

The computerized data base permits advisors to know student activities and performance and helps them to provide guidance to students beyond what his typical recall and analysis can perform.

Scenario

In order to put a breath of life into this explicative document, the scenario will involve three characters in the project representing the three levels of training, i.e., paraprofessional, dependent researcher and independent researcher. The experience they will have will demonstrate the experiences of many of the trainees, although not specifically for all the trainees, in that the program is designed to stress the individual needs of the interns in order to bring about effective evaluators and researchers as change agents in an educational environment. What follows is a fictional look at three interns.

Mrs. Rose Moore is a thirty-two year old mother of two children from Syracuse, New York. Her husband, Isaac, is an attendant at the Veteran's Hospital in Syracuse. A native of Syracuse, she had to leave her inner city high school in her senior year because of her mother's death in order to support her younger brother and two younger sisters. She took a job as a sales clerk at Dey Brothers department store. By that time, Tom, her brother, graduated from high school and joined the United States Army to further support the two younger girls who were now living in the Moore residence. Sue Anne finished high school the following year and went to New York City where she had procured a position as a secretary. Marlene finished high school two years later and won a scholarship to New York State University at Oswego. Rose quit work when her first son was born and did not return until both children were in school. For the past year she has been employed as a paraprofessional at the Martin Luther King School assisting in the first and second grades. In addition, she has been a moving force in the black community to involve parents with the school. Rose Moore was recommended to the SCERT program because of her interest and her ability to interact with the black community and the school system.

"What I really like about the SCERT program is that I can remain on my job, and learn more about the school, teachers, students and community, as well as better my own skills. When I first met with my advisor, Professor Hasa, I was afraid that I would not be able to do the work required, and do my job at school and keep my family going. When I learned that I would be learning at my own rate, and at home, on the job and at the university, I knew that I could do it. In the first meeting with all the members of the training program, I found that we were all at different levels and that there were other paraprofessionals like me. I also knew that I would be able to improve my own position at the school and be a real service to the black community and my school. Maybe I could help change the schools."

"Professor Hasa and I discussed my capabilities and I learned that I would be going through different modules (a word that was foreign to me), and have a pretest, an activity associated with the module and a post-test in order to make me an Instructional Analyst. I also learned that in some cases I would not have to go through a particular module because of the results of the pretest, and in other cases a module would have to be developed for me. Throughout the program I would be evaluating myself. I think that this idea is good because I can take my self-evaluation and become more aware of what I observed in the classrooms. This was really great because I could help myself and help the school. I really got excited. I began to think that maybe this was the only way change could be brought about--real evaluation and then action. Not action for the sake of action without any change."

"The first thing I was introduced to was MESS (Monitor-Evaluation Support System) - and it was for me. I learned how to operate a computerized information retrieval and analysis system. I learned that I could request and enter information, and that I would record the results of my own tests. It was funny to do this, because it was the first time I was trusted in a school situation. I must admit that I was afraid of the system, but when I learned how to use it and got results I was proud. My family also kept up with my progress, and the excitement was in the family too."

"After that I became involved in a T-group. I thought that this would be a waste of time. It was like play acting and not part of the real world. The white people in the group seemed to be able to say more, but I began to question what they were saying even though some were principals, teachers and men and women from educational industries with a lot more knowledge than I had. I was afraid to talk because I thought I'd be made a fool of. Finally I couldn't take it any more because two guys, Paul Finn, principal from Niskayuna Elementary School, and Jon Knowle from Systems Development Corporation were talking about some kids in a black school in Washington, D. C., who they were sure weren't interested in learning because they couldn't learn. I started talking to them about black people and how I felt. This really got them up tight, but finally we were able to have a better understanding of the problems. I am sure that they hadn't been challenged by a black person like me before, and a situation in which honestry was an important part of the experience. Before long I became aware of why T-grouping was an important part of evaluating. I became more aware of myself and the others in the group. When I thought of how I could use this in the classroom in evaluating the teacher I knew that I had to use many skills."

"Also, I started a module in listening skills. I became aware of how much I missed. I also began wondering how to evaluate what I was listening to and listening for. This became an obvious skill needed for my job as an observer in order to record accurately what I saw and heard. Later on I wanted to know more about non-verbal communications, and a module was set up for me in order to become more aware of how to analyze non-verbal communication."

"Through the departments of sociology and anthropology I learned more about black people in modules dealing with human relations problems."

"My modules in observational and rating techniques became a central part of my experience. I learned about Flander's interaction analysis and his ten categories, as well as Gallagher and Aschner's."

"Looking back at my experience, I wonder how I learned so much. When I realized that I was using what I was learning and making an actual contribution to change, I knew that the decision to become an Instructional Analyst was correct. I know that as a paraprofessional I am aiding the dependent and independent evaluators and researchers like I did during the training. With my certificate I am able to become a more effective person in my school and help in bettering education for the future. It is essential that we constantly be involved in evaluation in order to bring about change in our schools for the ever-changing society."

The principal of the Niskayuna Elementary School, Paul Finn, was one of the first applicants. He is a thirty-five year old father of two boys and a girl. He is a graduate of the State University of New York, Cortland, where he majored in Science Education. After three years of teaching at Auburn, New York, he started studying for a master's degree in Educational Administration at Syracuse University. Taking six semester hours of credit during the summer, and three semester hours each semester during the year, Paul decided to return to school as a full time student to finish his degree requirements. He did his administrative internship at an inner city public elementary school, Syracuse, and after being awarded his degree, he took a position as Vice Principal at the DeWitt Clinton Avenue Elementary School, Albany, New York. After two years, he was offered the position of Principal of Niskayuna Elementary School. He was stimulated by the interviews and the openness for change. He thought he would be able to carry on meaningful research involving his staff in order that they could utilize the ideas in the classroom. Unfortunately, this did not materialize because his time was taken up with too many bureaucratic functions and his inability to develop and carry out his research projects.

When the Superintendent of Schools contacted him about the SCERT program, he was dubious of the intent of the program, but after some deliberation and talks with Drs. Harootunian and Samph, he decided to become involved as a dependent researcher. "It was an opportunity to really redefine the role of the principal and to effect change within the school system. In addition, I would be able to remain on the job except for one and a half days a week when I attended specific sessions at the university. The ability to transport most of the modules to my home and office was a stimulus because I was able to use what I was learning and question its significance. Possibly one of the most significant changes in a program such as this is the transportability and the immediate questioning of what you are learning. This is an immediate change in the structure of traditional education. Likewise this can stimulate the participants to make education more relevant to their students. After all, this has been the cry for the last few years."

"As with the other interns in the program, my first module was with the Monitor-Evaluation Support System. This became a fascinating orientation because of the technological expertise I was gaining. In addition, I decided to sharpen my expertise with developing extensive technical skills. I did modules in the computer and its applications, along with many other hardware and software auxiliaries. I knew that these would come in handy with my research. I could also train people to use these machines and spend my time analyzing. In addition, we (the school system) could send paraprofessionals to learn these skills in the SCERT program."

"T-grouping became something I looked forward to. I was interacting with people from all the levels and learned a great deal about my own inadequacies and how to become sensitive to others, thereby being able to deal more effectively with others."

"My biggest confrontation came with Rose Moore, a black paraprofessional. She pointed out how I was stereotyping, and in fact knew little about black people, even though I admitted to having expertise in interracial relations based upon my internship in an inner city school. She became a good person to work with because she challenged me from a very realistic point of view. Her interaction with Jon Knowles and me is something I'll never forget."

"Later I was able to utilize Rose's talent in a research project concerning teacher-student interaction. Her recording of the interaction was accurate, and some of her perceptive comments helped in my analyses."

"As a researcher I was able to go into depth in sociology, and did extensive learning in sociological theory concerning minority groups in the suburbs. Dr. Willie, sociologist at Syracuse University, assisted me in designing some of the research in minority groups in the suburbs. Dr. Schwarts, Professor of Anthropology, helped me in studying the cultures of migrant black and Puerto Rican peoples. They helped with other members of the staff to develop modules for my particular problems. Through modules in Hypothesis Generating Techniques (R6) and Hypothesis Testing Techniques (R7), I was able to start my own research as needed in my community and school. Through the module in Validity of Research Designs (R14), I was able to have a good idea where my design was weak."

"Through this actual application of my research studies at the university, I am able to involve my teachers in new ways of looking at the classroom through the use of the Independent Evaluator and the help of several paraprofessionals."

Jonathan Knowles is a twenty-four year old bachelor from Alexandria, Virginia. As an undergraduate at Dartmouth, he majored in mathematics and minored in philosophy. After graduating in 1965, he taught Plane Geometry and Analytic Geometry at Horace Mann School, New York City, for one year. For the past three years he has been with Systems Development Corporation (SDC), Falls Church, Virginia.

"My initial reaction to the SCERT program was positive. Since I am not a man who works on whim, I contacted Dr. Harootunian in order to discuss the particulars of the program before I made the decision to apply as an Independent Investigator in Evaluation - Ph.D. level. My meeting firmed up my desire to become involved with the program."

"With my background in teaching and educational industry, I would have a definite and positive input into the program, and my empathy for change in the educational system made my role as an evaluator in educational industry more pronounced."

"Realizing that I would not be trained in a "traditional" graduate program was also encouraging because I wanted to become involved with ideas and practices which I could utilize in industry--not leave in a notebook. In addition, I could continue to work part-time at SDC, thereby utilizing my learning experience."

"The T-grouping, my first module, after introduction to the MESS, was one in which I felt somewhat uncomfortable. I was combined with people from all three levels. I thought that the trainers would have separated us according to our levels. How could a paraprofessional teach me anything about myself and with people with whom I could come in contact? Needless to say, it became apparent after a few sessions that my exposure to the educational system was limited, and that my perception of self and my interaction with people was too limited. I became alienated from Rose Moore, a black woman, who bluntly stated I dodn't know what I was talking about even though I was black. She told me that I was a white man with "colored" skin, which I rejected immediately. Thinking back on this accusation, I must agree. At the time I retorted by stating I was conscious of my blackness and the hardship of my people. Furthermore I was abreast of the black struggle, and had read Franz Fanon and other black writers. In addition, I had been in the black schools of Washington."

"Rose pointed out that that was the problem--I was abreast of it, not involved in the struggle. I was part of the black bourgeoise. She was right."

"I had never been confronted with such a situation. I learned a great deal about myself and about my people from her and other members of the T-group. The intermingling of the levels became an important aspect of the program, and we learned how to utilize one another's talents."

"The decision to specialize in the field of economics was a result of my background and interests. What does the field of economics have to say to education? How can economics be utilized in evaluating an educational system? Although this is where my strength as an evaluator is found, my awareness of the other basic concepts (anthropology, political science, psychology and sociology) assists me in evaluating and not looking narrowly at a problem."

"Some of my first year's modules dealt with: Anticipating Predicted and Unpredicted Barriers (C8), Identifying and Rating Resources Available (C9), Identifying the Dynamics and Variables within the Settings Affecting Change (C10). Since I had skills in Systems Analysis, I developed more expertise with staff members assisting. My depth in economics started with modules in basic economics and education. As questions were raised, existing modules were provided or new ones developed. Often I found myself utilizing my new skills on my job at SDC."

"During the summer of my second year, I started an internship with the Policy Institute, Syracuse University, and Frank Braca, another Independent Evaluator, took my position at SDC to gain experience with educational industry. While at the Policy Institute I worked with Dr. Seymour Sacks, and had a chance to look at economics and education from a different perspective. In addition, I was able to use some of the political science concepts I was learning. Moreover, I became involved in taking a few "traditional" courses in economics in order to gain a deeper knowledge of the discipline."

"What became an interesting factor in my experience is that the courses in economics strayed from my particular needs in education and modules were developed to apply my economic knowledge to education. The modules in Application of Values in Evaluation (E6) and Establishing Standards (E10) became an important part of this learning process."

"During May of my second year, ideas for my dissertation started formulating in my mind. I was interested in federal funding and curriculum. Discussing my ideas with fellow interns and faculty members firmed up my proposal: "The Effects of Federal Funding on Curriculum Innovation in Representative Schools." This seemed to be an excellent area to evaluate, and I could use different techniques and members in the consortium for the evaluation. In addition, I could effect change if my identification of objectives was correct."

"My third year was spent in designing my evaluation techniques with an independent researcher, collecting data and evaluating. The writing of the dissertation was not as painful as I anticipated, because of the knowledge and experience I had gained by collecting, analyzing and evaluating data in my internship. I understand that my evaluation has created quite a lot of interest already."

"Reflecting on the past three years, I know now that the interrelationship between the experience based, process-product orientation to make change agents was a definite success. In returning to my job at SDC, I have become a valuable member of the organization because I can not only intellectualize what is involved in planning and carrying out an evaluation; I can actually do one."

The Roles of the Constituents

The specific members of SCERT have been listed in various sections above (e.g., Program Overview). This section describes the specific role of each member within the consortium. While various aspects of the SCERT program will occur in and utilize the resources of all of the units, each member will have its own thrust as described below. The training capabilities of various consortium members are described in the Appendix.

Syracuse University. The prime contractor for SCERT will be Syracuse University. A substantial portion of all phases of the work will be carried out by this constituent member. Among its duties will be the over-all administration of the project. Syracuse University will play the key leadership role in developing modules, installing the support systems and insuring that communication between various members of the consortium takes place.

As an organization with evaluation and research expertise and capabilities (see Appendix), Syracuse University will provide major inputs in specific module development, particularly the disciplinary-based modules, and will offer a range of internship experiences at all three levels of competency.

Syracuse University will be the institution in which the trainees will be officially enrolled. All formal degrees and certification will be awarded by Syracuse University.

Canastota Central School District will provide internships for the dependent professional and paraprofessional levels. Canastota is a rural district located in Central New York and will serve as a field experience center for those trainees interested in studying and evaluating problems or decisions concerning rural constituents.

Jamesville-Dewitt Central School District is representative of large-city suburban schools and will afford trainees a wide range of experiences associated with this type of school. Trainees will be able to intern at the paraprofessional level and dependent professional level in these schools.

Niskayuna Central School District is located in the Albany-Schenectady urban area and exemplifies an experimental change-oriented school district. Students at all three levels will be provided with internship experiences here. Niskayuna staff members will also make an important contribution in the development of the interpersonal skills element.

Syracuse City Schools will be involved in SCERT, primarily providing large-city internship experiences at all trainee levels. The Special Projects staff of the Syracuse City School have been involved in developing Learning Activity Packages (LAPS) and their expertise in this respect will be particularly relevant in module development. Mr. Rudolph Zieschang, of the Syracuse City Schools, will be a member of the Executive Board.

Systems Development Corporation's (SDC) wide range of activities is only partially reflected by the description of their evaluation and research capabilities in the Appendix. SDC will afford internship experiences in evaluation at the independent and dependent professional levels. In addition, SDC will play a crucial part in the development of the technical skills modules. Dr. William Kent of SDC will be a member of the Executive Board.

Educational Policy Research Center will participate in SCERT in two major ways: internships and the development of modules on futures analysis. The internships will be at the independent investigator level and will allow trainees to work on planning and policy projects.

SURC Policy Institute will involve trainees at the independent investigator level in a number of evaluation and research activities whose range can best be comprehended by the description of activities listed in the Appendix under the section, Evaluation and Research Capabilities. The Policy Institute will allow interns to test their disciplines in various complex on-the-job applications. Dr. Stephen Bailey, Director of the Policy Institute, will serve on the Executive Board of SCERT.

Finger Lakes Regional Planning Center and The Educational and Cultural Center for Onondaga County will provide trainees at the dependent level opportunities to become involved in working with public schools in planning, developing and implementing innovative ideas. At the independent level, an internship will be designed which would involve an evaluator working with both centers on a regional problem.

New York State Department of Education and The Vermont State Department of Education will provide internships in evaluation at the independent investigator level. The strength of the internship with the New York State Department of Education lies in the wide range of activities the intern can become part of. The Vermont State Department internships will focus primarily on inducing change in education through planning and evaluation.

Implementation of the Program

A number of considerations of a general nature have to be addressed before specific aspects of the SCERT program can be detailed. Foremost, of course, is securing adequate funding to carry out the program. Given unlimited resources the strategies for implementing the SCERT program would be quite different than those proposed in this document. Every effort was made to make decisions which would permit a logical and orderly implementation of the SCERT program within reasonable cost estimates.

The initial stages of implementing the SCERT program design will involve a total commitment to developmental tasks. Figure 4.10 on page 70 described the over-all relationship between development and training activities. It is clear from this figure that our efforts will be to begin the development process during the period February 1, 1971 through September 1, 1971 with the design, construction and testing of specific modules. The time and energy devoted to development activities will decline gradually over the three and one-half year period (February 1, 1971 through June 30, 1974) and will level out at a level consistent with the maintenance and change function of the support systems. Since the SCERT program is self-renewing it must continue with some level of developmental assistance throughout its existence.

During the developmental period starting February 1, module design will be initiated. Members of the cooperative have agreed that individuals within the constituencies will be identified as having the experrise and skills required to produce specific modules. The example, Systems Development Corporation has indicated an interest in and a desire to develop and provide specific modules in the Technical Skills Element of the program. These would include, for example, modules C19 (Information Retrieval Systems) and C17 (Programming). The public schools have identified a series of modules they will develop cooperatively in the area of evaluation criteria. The specific modules are E6 (Application of Values in Evaluation), E8 (Identity Values Implicit in System Tools) and E9 (The Nature of Norms and Standards). The budget in Section V provides greater detail on the actual development activities as they relate to modules and support systems.

Selecting which modules will be completed initially will be based on: (1) criticalness of the skill or competency to be developed, (2) availability of existing resources and (3) ease of development. Criteria will be applied in the order presented above. For example, module C2 (Introduction to the Monitor-Evaluation Support System) is an understanding and skill development module without which the trainee cannot use the support systems and hence will be unable to progress through the SCERT program. Each module will be examined in light of these criteria.

Concurrent with the development of modules will be the operationalizing of the support systems. Referring to the example just provided, one can see that without the support systems the program cannot operate. These systems must also provide an opportunity internal to their operation for their own modification. Careful attention must be paid when installing the system to assure that once operating it can be redesigned without forcing the training program to halt.

The selection of trainees will initially involve the members of the cooperative as a source of students. This implementation strategy was selected for two major reasons. First, the experimental nature of the program in its infancy requires a small number of trainees to provide a test of initial modules and support systems. As more modules are developed and others tested, more students will enter the program. Secondly, to initiate a massive recruitment plan would be pre-mature, since commitments have been made to members of the cooperative to not only use them, in the best interpretation of the term, but to help them in the process of change. A large initial influx of non-cooperative member trainees would create frustration on the part of public school personnel. The intention of the SCERT staff is to increase student enrollment in pace with material, facility and personnel development. As the program capacity for more students increases, the proportion of non-cooperative member trainees will increase.

The quality of the participants at the independent investigator level will be a crucial input into the program, because those individuals will be the future leaders in education. Therefore, at this level an attempt will be made to gather evidence on leadership and other qualities of candidates such as their "brightness," creativity, motivation, etc. It may well be that some of these qualities are charismatic and cannot be adequately operationalized, but an attempt will be made. This will be done primarily through intensive interviews, as well as the usual selection criteria for graduate students.

The dependent investigators and paraprofessionals will be selected on the basis of their commitment to work in the schools or other institutions on the "front-line." Again, interviews will be a major source of data for selection, but efforts will be undertaken, consistent with the program's aim to produce change-agents, to identify variables relevant to decisions on trainee selection.

SCERT is an interdependent concept. Personnel who will be involved in its training activities will themselves have to develop skills (e.g., those included under the Interpersonal and Communication elements). As well, the SCERT staff will have to be able to use the Monitor-Evaluation Support System. Therefore, some of the staff of SCERT will require training themselves before program implementation.

During the first academic year of the program, it is planned to include all three levels of trainees, with the first contingent starting in September, 1971. The following table depicts the approximate number of trainees anticipated over the three year period:

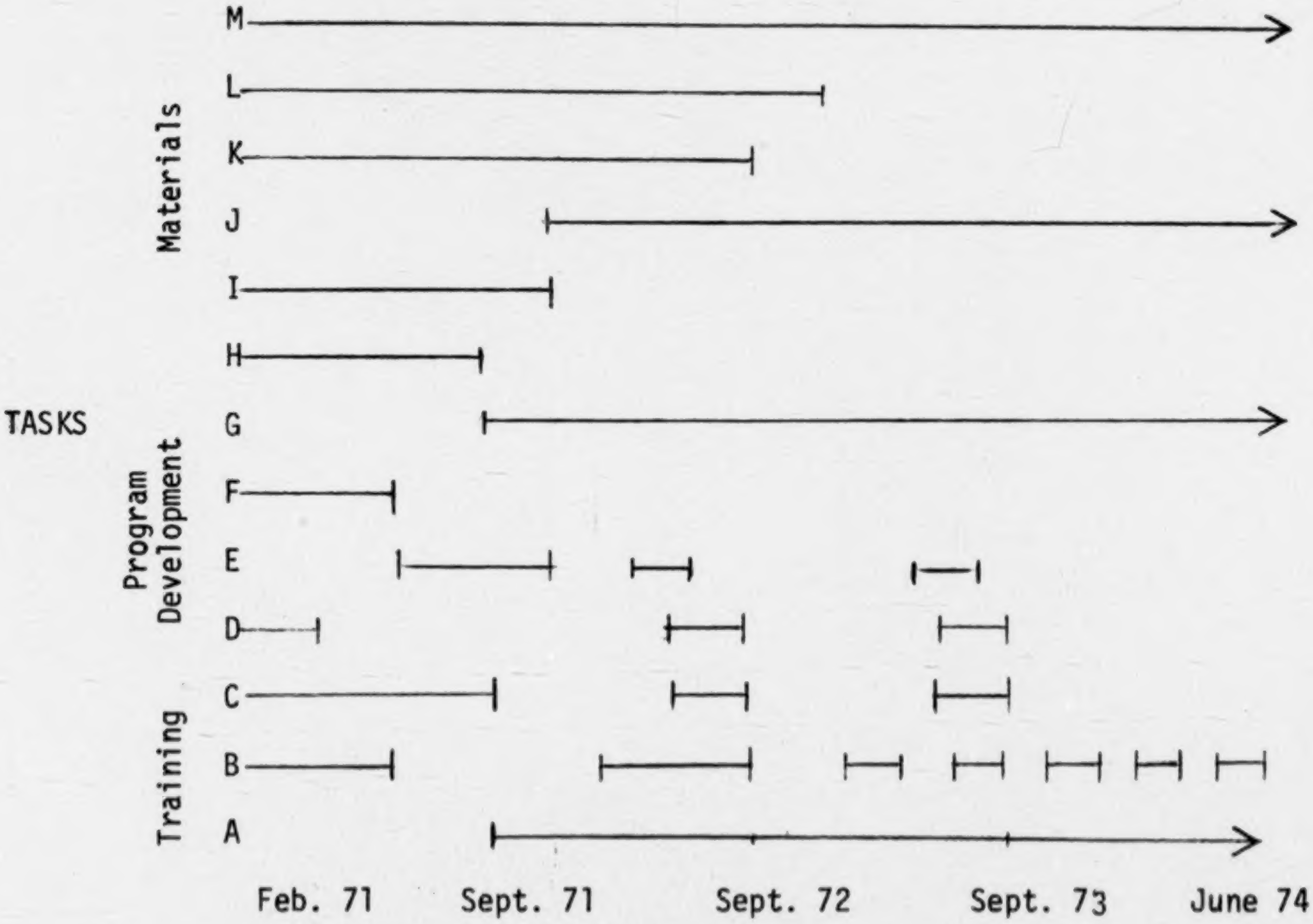
Level	1971-72	1972-73	1973-74
Independent	6	12(18)	12(30)
Dependent	12	24	48
Paraprofessional	12	24+	48+
Completed Program	24	48(72)	102(174)

At the end of the third year, the SCERT will have trained a total of 6 independent investigators, 84 dependent professionals, and 84 paraprofessionals. These numbers are consciously conservative. It is estimated that once the modules are developed the number of trainees, particularly at the lower two levels, can increase at a much more rapid rate, but we prefer to be cautious at this stage. The numbers in the parentheses are the cumulative number of trainees by year.

The meaning of the plus-sign under the paraprofessional category indicates that when the program becomes more fully operational these trainees will be able to move through the program in greater numbers and will be constrained primarily by their own learning pace.

Program Schedule

The following figure provides a perspective of the sequence of major activities occurring during the operational stages of SCERT. Each task included in figure 4.13 is described below.



TASK	DESCRIPTION
A	Initiate training activities
B	Select trainees
C	Train training staff
D	Negotiate contracts with constituents
E	Organize internship field experience
F	Formalize certification and degree procedures
G	Organizing monitoring and evaluation
H	Staffing
I	Design initial modules
J	Continue development of modules
K	Support systems development
L	Establish and test program accounting system (internal/external)
M	Construct and test modules

Figure 4.13 Time Table for Major Program Tasks

Key Personnel

The individuals listed below with their major responsibilities represent the key personnel of the SCERT program. Also listed are the names of additional personnel who, because of prior commitments, cannot give the program more than 10% of their time during its initial phase. This latter group of individuals, however, will be in crucial leadership roles in the SCERT program and are definitely committed to its implementation. The parentheses describe an individual's module responsibility.

Berj Harootunian, Associate Professor, Education
Project Director and coordinator of data collection modules (C26-C36) (E11)

Thomas Samph, Assistant Professor of Education and Research Coordinator, School of Education, Project Co-Director, coordinator of Support Systems and Research module development (R1-R17) (C2)

Donald Meyer, Associate Professor, Psychology and Education, Coordinator of Data Analysis Elements (C37-C40)

Barton Schwartz, Chairman Anthropology
Coordinate the development of behavioral/ Social Science modules (Basic Concepts: Modules C21-C25)

Arthur Blumberg, Professor, Educational Administration
Function as change-agent specialist, coordinator of Interpersonal Skills modules (C5-C10) and will monitor development of modules to assure emphasis on change.

Tom Rusk Vickery, Assistant Professor, Curriculum
Coordinator of total SCERT curriculum development and consultant to module developers on behavior objective and instructional activities (E1:E2: E5-E10)

Dennis Gooler, Assistant Professor, Education
Evaluation Modules Coordinator and consultant to module development staff in evaluation (E3:E4:E12-15)

William Kent, Director, Washington Office, Systems Development Corporation
Coordinate Systems Analysis and Technical Skills elements (C16-C20) Consultant to program staff for support systems and Executive Board member

Joseph Oakey, Commissioner, Vermont State Education Department, Executive Board member and coordinator of Vermont State Education Department experiences

Rudolph Zieschang, Director, Curriculum Services, Syracuse Public Schools, Executive Board member, coordinator for dependent investigator internships

Lorne Woollatt, Associate Commissioner for Research and Evaluation, New York State Education Department Coordinator of intern experience in New York Schools Education Department

Stuart Naidich, Planner, Finger Lakes Regional Planning Center, Coordinator for paraprofessional internships and module development

Eric Gardner, Chairman, Psychology, consultant to the measurement and data analysis module development staff

Time Commitment: 10%

David Krathwohl, Dean, School of Education Member of the Executive Board and consultant on objectives

Time Commitment: 10%

Stephen Bailey, Director, Policy Institute Module and simulation activities relative to planning and policy formulation; supervision of internship in evaluation

Time Commitment: 10%

Donald Ely, Chairman, Instructional Technology Coordination of module and program development activities relative to mediated materials

Time Commitment: 10%

V. BUDGET

Personnel:

Berj Harootunian		
February 1, 1971 - January 31, 1972	100%	$23,522.
Thomas Samph		
February 1, 1971 - January 31, 1972	100%	18,374.
Donald Meyer		
February 1, 1971 - June 15, 1971	12.5%	1,000.
June 16, 1971 - September 15, 1971	100.0%	5,760.
September 16, 1971 - January 31, 1972	12.5%	1,080.
		7,840.
Barton Schwartz		
February 1, 1971 - January 31, 1972	50%	14,350.
Authur Blumberg		
February 1, 1971 - January 31, 1972	50%	12,076.
Tom Rusk Vickery		
February 1, 1971 - January 31, 1972	50%	9,310.
Dennis Gooler		
February 1, 1971 - January 31, 1972	25%	4,550.
Eric Gardner		
February 1, 1971 - January 31, 1972	10%	2,500.
David Krathwohl		
February 1, 1971 - January 31, 1972	10%	3,300.

Personnel (Continued):

Stephen Bailey		
February 1, 1971 - January 31, 1972	10%	$ 4,000.
Donald Ely		
February 1, 1971 - January 31, 1972	10%	2,050.
Other Personnel:		
Patricia Campbell (Program Associate)	100%	10,000.
Staff:		
Graduate Assistants (2)		
February 1, 1971 - January 31, 1972		8,000.
Graduate Assistants (2)		
July 1, 1971 - January 31, 1972		5,600.
Secretary (1)		
February 1, 1971 - January 31, 1972	100%	6,000.
Other Key Personnel:		
William Kent		
February 1, 1971 - January 31, 1972	25%	9,000.
Joseph Oakey		
February 1, 1971 - January 31, 1972		4,000.

Other Key Personnel (Continued):

Stuart Naidich		
February 1, 1971 - January 31, 1972	25%	$ 4,000.
Lorne Wollatt		
February 1, 1971 - January 31, 1972	10%	4,000.
Rudolph Zieschang		
February 1, 1971 - January 31, 1972	10%	2,500.

Supplies (Syracuse University):

15 boxes photo offset masters @ 8.70 per box	$ 130.	
20 boxes of fluid duplicating masters @ 3.27 per box	65.	
60 reams of fluid duplicating paper @ 1.12 per ream	65.	
17 dozen white lined tablets @ 1.65 per dozen	30.	
3-M copy paper - 10,000 sheets @ 3-1/2¢ per sheet	350.	
Professional publications (Books, pamphlets, periodicals)	1,200.	
Miscellaneous (stationery, carbon paper, pens, paper clips, pencils, etc.)	225.	
Module prototype construction materials - to be specified	700.	
Sub-total Supplies		$2,765.

Equipment Rental:

Rental of two IBM Selectric typewriters @ 30 each per month for 12 months	720.	
Rental: Programma 101 @ 50. per month	600.	
Rental of 3-M copying machine model #209 for 12 months	350.	
Rental of 1 IBM dictating machine and transcribing component for 6 months	300.	
Rental of fluid duplicating machine for 12 months	320.	
Sub-total Equipment Rental		2,290.

Reproduction Services:

Preparation of reports and SCERT publications		3,000.

Trainee Support

Period: September 1, 1971 through January 31, 1972

Total Costs

Tuition and Trainee Cost	Relocation Costs	Level	N	Total
2500 + 3900	200	Independent	6	19,800
2500 --	--	Dependent	12	15,000
2500 + 3900	200	Paraprofessional	6	19,800
2500 --	--	Paraprofessional	6	7,500

Trainee Support

Breakdown of Trainee Support by Constituent Members

Allocation of Funds

September 1, 1971 to January 31, 1972*

	Prime Contractor		Sub-contractors			
Level	Trainee Costs	University	Government Agencies	Public Schools	Educational Industries	Total
Independent	12,300	6,000	500	500	500	19,800
Dependent	--	12,000	1,000	1,000	1,000	15,000
Paraprofessional	12,300	6,000	500	500	500	19,800
Paraprofessional	--	6,000	500	500	500	7,500
Total	24,600	30,000	2,500	2,500	2,500	62,100

* Total training costs for period February 1, 1972 to June 30, 1972 will be identical.

12 Month Budget

Program Development

	University	Government Agencies	Public Schools	Educational Industries	Total
Personnel	98,874	8,400	2,500	9,100	118,874
Employee Benefits	12,793	--	--	--	12,793
Travel	900	560	50	420	1,930
Supplies & Materials	1,200	210	100	140	1,650
Communications	1,000	140	50	105	1,295
Duplicating & Reproduction	1,000	--	--	--	1,000
Statistical	--	--	--	--	--
Testing	--	--	--	--	--
Other	--	--	--	--	--
Final Report	--	--	--	--	--
Equipment	900	--	--	--	900
Sub-total direct	116,667	9,310	2,700	9,765	138,442
Indirect Cost	9,333	2,100	1,377	8,373	21,183
TOTAL	126,000	11,410	4,077	18,138	159,625

12 Month Budget

Materials

	University	Government Agencies	Public Schools	Educational Industries	Total
Personnel	32,868	3,600	--	3,900	40,368
Employee Benefits	4,264	--	--	--	4,264
Travel	300	240	--	180	720
Supplies & Materials	1,565	90	--	60	1,715
Communications	200	60	--	45	305
Duplicating & Reproduction	2,000	--	--	--	2,000
Statistical	--	--	--	--	--
Testing	--	--	--	--	--
Other	--	--	--	--	--
Final Report	--	--	--	--	--
Equipment	1,390	--	--	--	1,390
Sub-total direct	42,587	3,990	--	4,185	50,762
Indirect Cost	16,105	900	--	3,589	20,594
TOTAL	58,692	4,890	--	7,774	71,356

12 Month Budget

Totals

Personnel	159,242
Employee Benefits	17,057
Travel	2,650
Supplies & Materials	3,365
Communications	1,600
Duplicating & Reproduction	3,000
Statistical	--
Testing	--
Other	--
Final Report	--
Equipment	2,290
Trainee Cost	24,600
Institutional Allowance	37,500
Other Direct	--
Sub-total Direct	251,304
Indirect Cost	41,777
TOTAL	293,081

Projected Six Month Budget

February 1, 1972 - July 30, 1972

	Program Development	Materials	Total
Personnel	39,100	49,000	88,100
Employee Benefits	8,200	6,800	15,000
Travel	1,000	820	1,820
Supplies & Materials	3,000	28,400	31,400
Communications	500	400	900
Duplicating & Reproduction	3,300	5,000	8,300
Statistical	--	--	--
Testing	--	--	--
Other	--	--	--
Final Report	--	--	--
Equipment	2,300	4,500	6,800
Trainee Cost	--	--	24,600
Institutional Allowance	--	--	37,500
Other Direct	--	--	--
Sub-total Direct	57,400	94,920	214,420
Indirect Cost	10,088	36,095	46,183
TOTAL	67,488	131,015	260,603

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VII APPENDIX

EVALUATION AND RESEARCH TRAINING CAPABILITY OF SCERT

Evaluation and Research Training
Capability of SCERT

SYRACUSE UNIVERSITY

Syracuse University was established in 1870 as a coeducational, privately endowed liberal arts college. The University today is made up of twenty schools and colleges with a total enrollment of 24,160. The faculty numbers 1,354, of which 974 are full time. Sixty-two percent of the full-time faculty possess the doctoral degree. During the academic year 1965-66, the University conferred 151 doctorates, and during 1966-67, 172 doctoral degrees. Indicative of the University's strong commitment to research and scholarship is the fact that the Syracuse University Research Institute handled during the academic year 1966-67 research programs with a gross value of $11,406,000.00.

In 1934 the Board of Trustees, recognizing the need to take cognizance of the contributions and responsibilities of the total society and its institutions in teacher training, reorganized and reconstituted the former Teachers College into the All-University School of Education. Under this organization the various colleges and departments of the University are brought into active participation in the work of the School and are represented through appointed representatives or dual professors. The interdisciplinary character of the faculty and course offerings does much to facilitate the exchange of ideas and constitutes a relatively unique contribution to the training of educational researchers who would be competent in both the tools of scientific research and subject matter.

At the graduate level the School of Education is authorized to confer three master's degrees (M.A., M.S., and M.Mus.), as well as Ed.D. and the Ph.D. degrees. Twenty-four different areas of specialization provide the variety of professional experiences demanded by the increasingly complex American education enterprise. In the fall of 1968 there were enrolled in the School of Education 305 doctoral students and 709 master's candidates.

CENTER FOR INSTRUCTIONAL COMMUNICATIONS

The Center for Instructional Communications at Syracuse University is a major international center for the preparation of professionals to serve in the field of instructional technology. Further, as an all-University service unit, the Center provides support for the instructional program of the University and leadership in its improvement. Support is given through the designing, producing and procuring of instructional media, and by helping the faculty to utilize these media in the most effective manner. Leadership is demonstrated by instructional research and development activities within the University.

Faculty members in the area of instructional technology also serve as professional staff in the Center. This dual relationship permits graduate students to use the Center's ultra-University program as a laboratory. Graduate assistants and research assistants are staff associates of the Center.

In addition to the support provided by Audiovisual Services, Instructional Graphics, Photopress and the Recording Department, an extensive program in motion picture production and the third largest university film library in the United States offer additional resources.

The prime laboratory for the Center is the experimental classroom in the Newhouse Communications Center. This facility, equipped optimally for use of technological systems, confirms the central role of the Center in instructional experimentation. The Instructional Systems Development Project, sponsored by the United States Office of Education, stimulated research and developed activities in a variety of disciplines. Examples of other research efforts are the use of the computer in education, the design of instructional systems, learning-space design, and production of new types of instructional materials.

Research and development activities in the Center have encompassed a variety of topics and have existed at several levels of complexity. For this report, there are four categories of research activity: Supported Projects, Developmental Projects, Student Research, and Cooperative Projects.

1. Supported Projects.

The Center has had a variety of supported projects over the years. In the last five years, four exemplary projects seem worthy of mention.

Educational Media Research and Programs in Latin America. A survey and assessment of Educational Media Research in nineteen Latin American countries was conducted. Its purpose was to identify, report, and disseminate information on those agencies and personnel engaged in such research. The survey determined which agencies were conducting or had access to educational media research. Descriptions of media research in nineteen countries at the time of the report publication were included.

Instructional Development Project. The Center for Instructional Communications was one of four units of four university campuses in the United States which tested a variety of instructional models. This project produced several small studies, some cost effectiveness studies, a variety of instructional development models, and two completely redesigned courses on the Syracuse University campus.

New York State Campuses Film Library Network Project. This project was sponsored by the State of New York, the United States Office of Education, and selected Boards of Cooperative Educational Services in the State of New York. It demonstrated the feasibility of a computer-based film network, and then proceeded to operate the network for selected Boards of Cooperative Educational Services. The project further provided substantial data in terms of possible specifications and applications of information networks for the future.

Rome Air Development Command Project. This project, which began in 1966, is a joint effort among several departments at Syracuse University. The Center for Instructional Communications is involved in the component dealing with computer applications to instruction.

2. Developmental Projects.

The Center for Instructional Communications has been involved in a variety of developmental projects. Some illustrative examples are:

Educational Systems and Operations Research Conference. This conference, held in 1964, brought together top professionals in operations research to discuss the possible applications of systems theory and operations research to instructional problems. The project report is still being distributed.

Newhouse A-1 and A-2. In conjunction with the General Electric Company, the Center designed and developed two experimental classrooms in the Newhouse Communications Center. These classrooms, A-1 and A-2, combine the best of what is known in the theory and practice of multi-media presentational formats and provide a laboratory for instructional development on the Syracuse University campus. In addition, a computer-based response system has been installed and updated periodically. This response system, at the time of installation, was one of the first in the country. These rooms continued to provide information for design of new equipment and facilities.

Joint Evaluation. Another type of development activity was a joint project with the American Institutes for Research. This project was concerned with criteria for evaluation of multi-media facilities. Syracuse used its several facilities and its staff as a pilot project in this activity. This resulted in a publication of standards for multi-media facilities by the American Institute for Research.

3. Student Research

Student research projects have primarily taken the form of dissertation research. The past five years, more than twenty-five dissertations have been produced. In the last two years and projecting into the future, it appears that somewhere between ten and fifteen dissertations per year will be produced by students studying at the Center for Instructional Communications. There has been a great change in the quality of dissertations over the years. Currently more are experimental, rather than descriptive as in the past.

4. Cooperation with other Groups

The staff of the Center has continually cooperated with other groups on the Syracuse University campus and across the country in research and development projects. For example, staff members from the Center were involved in the planning groups for the Training-of-Teachers-of Teachers Project and the Elementary Teacher Education Modeling Project, both of which were funded on the Syracuse University campus. Members of the Center staff also have worked and continue to work with the United States Office of Education-funded Educational Policy Research Center at Syracuse University. This activity gives the Center a "futures component." On a more practical developmental level, staff members have worked with departments on the University campus on their instructional development activities. Exemplary activities include Science Education, the College of Home Economics, the School of Social Work, the School of Nursing, and the School of Education.

EARLY CHILDHOOD EDUCATION RESEARCH AND DEVELOPMENT CENTER

This and similar centers across the country are coordinated by the Early Childhood Laboratory which is supported by the United States Office of Education. The program was developed when recent demands for preschool education programs made clear the importance of the influence of environment upon culturally deprived children, and exposed the relative lack of knowledge about children in this age group. The result has been the development of long-term research projects which seek to understand the basic variables and behavior of young children and to translate this knowledge into an effective educational program for prekindergarten pupils. Currently, the program involves the use of three laboratory situations: the Children's Center, which offers a program designed for deprived children from six months through four years; the University Nursery School which involves culturally deprived children integrated with middle class children and the Liverpool Preschool Program which provides subjects for a variety of experimental purposes. Current projects are concerned with development of color concepts, the nature of mathematical concept development, and a variety of learning studies centering around language development and use.

The extensive laboratory facilities available under this program facilitate research by graduate students.

PSYCHOLOGICAL RESEARCH CENTER

The psychological Research Center is an all-University organization which provides special services to faculty members and students.

The Center conducts several special testing programs for students during the year. Students desiring an analysis of their aptitudes, abilities, and interests may make appointments at the Research Center or through the office of the appropriate dean.

The staff of the Research Center also provides student counseling services which supplement those given by the staffs of the Dean of Men and the Dean of Women, and by the deans and faculty of the various colleges. Special attention is given to problems involving vocational and educational choices, and social and emotional difficulties. The services of the Center to full-time students are free of charge.

Facilities for the evaluation and testing services of the Research Center are located on the second floor of Sims IV and are available to departmental faculties and to individual staff members in connection with (a) the scoring, analysis, and improvement of examinations; (b) methods of appraising student progress; (c) methods of appraising courses and programs; and (d) special educational and psychological research studies related to instructional problems.

The Center provides practical experience for advanced graduate students training as specialists in the field of evaluation and testing, as well as in general and clinical counseling.

CENTER FOR THE STUDY OF TEACHING

This Center is designed to facilitate the study of problems associated with the preparation of teachers and the analysis of teaching. The Center is initially concentrating on the development of a prototype elementary teacher training program which will involve a modular approach to curriculum and instruction. Instructional modules in the self-paced program will make extensive use of simulation and various media devices that will be designed to assist instructors and seminar leaders in role professional training and in skill development.

KING-ON-CAMPUS

The King-on-Campus project is a joint venture of the School of Education and the Syracuse City School System. Its purpose is to establish more meaningful programs of education for the underprivileged and culturally deprived students in the city. The project's laboratory is a six-classroom building which was especially erected in the University complex to house a portion of the students. Members of the School of Education faculty serve in the experiment.

BUREAU OF SCHOOL SERVICE

The Bureau of School Service is the office most closely allied with the field activities and the service function of the School of Education. Boards of education and administrators turn to the Bureau of School Service for a wide variety of programs, conferences, consultant services, and cooperative research. Most of these are accomplished through contractual arrangements made in accordance with the desire of the clients. In addition, the Bureau of School Service is responsible for extension courses and workshops in professional education as well as for short-term programs in specialized areas. These include assistance in planning for federal and state supported programs and workshops for building curriculum and improving instruction. A wide variety of off-campus courses are arranged by the Bureau for professional and nonprofessional staff members of the public schools.

The Bureau of School Service provides administrative personnel services for educational organizations. This includes the selection and placement of administrative personnel, the design and development of administrative organization and related practices in personnel administration. School systems seeking administrative personnel or services related to administrative organization may consult with Bureau personnel.

URBAN TEACHER PREPARATION PROGRAM

In the belief that urban teachers require special understandings and skills, Syracuse University and the Syracuse Public Schools are cooperating in the development of this pioneering program designed to train new teachers specifically for service in hard-core, inner-city ghetto areas. Emphasis is on curricular development and teacher training which will provide greater involvement between the teacher and disadvantaged children and on the teacher's role as a "change agent" in stimulating positive student attitudes toward learning. Graduates of liberal arts or teacher preparation institutions are eligible for participation in the program, which leads to a master of arts degree in education after two summers and a full academic year of course work and supervised internship teaching experience. Approximately 148 teachers will have successfully completed the program by the end of the 1969-70 academic year. Sources of funding include: Ford Foundation, $378,000; Syracuse City Schools, $60,000; Syracuse University, $105,117; New York State Education Department, $112,020; total--$655,137.

LEARNING EVALUATION CENTER

Established in 1967 on a volunteer basis by members of the Syracuse University faculty from a variety of disciplines, the Learning Evaluation Center began as the Sub-Mensa Program, an interdisciplinary approach to attempt to identify various factors contributing to learning disabilities, especially on the part of inner-city children. Now a joint program with the Department of Pediatrics at the Upstate Medical Center, the program is presently functioning in conjunction with Sumner and other inner-city schools. A team from the Center works with teachers to identify and diagnose the learning disabilities of children with learning and/or adjustment problems in the school situation and plans appropriate remedial programs with the teachers such as assistance in the Syracuse University Reading Clinic, psychological assistance and the correction of speech, hearing and language disorders.

MULTI-GRADED CLASSROOMS: SUMNER SCHOOL

Students at Sumner Elementary School have the opportunity to develop their learning skills at their own pace through the multi-graded classroom concept introduced with the assistance of the Syracuse University School of Education on an experimental basis in 1967-68 and expanded to include ten classrooms for 1968-69. The multi-graded approach not only provides a high degree of individualized instruction for the students but also has served as a stimulus in developing a more effective dialogue among parents, teachers and the administrators of the inner-city school, resulting in the awarding of $132,000 in Urban Aid funds to the school for the development of expanded cooperative programs. Mr. John Dopyera is chairman of the steering committee which advises the director of Project Summit on the disbursement of these funds and other policy matters.

SYRACUSE UNIVERSITY CHILDREN'S CENTER

A Demonstration Day-Care Center funded by the Children's Bureau of the Department of Health, Education, and Welfare, and designed to measure the effect of environmental input on cognitive development, serves 75 to 80 children from six months through five years of age at the Center and has a home visitation program for about fifty expectant mothers, primarily from the very low income group of the inner-city of Syracuse. This Center serves not only as a research center but also as a training experience for students within the College of Home Economics while at the same time rendering outstanding service to inner-city families by providing day care which is one of the great unmet needs of the low income group in the inner-city of Syracuse.

SYRACUSE UNIVERSITY NURSERY SCHOOL

This is conducted by the College of Home Economics and the School of Education as a training center for teachers of preschool children and serving approximately 70 children per year, provides nursery school experience for a group of seventeen inner-city Negro children who are bussed into the Nursery School under the Pre-Kindergarten Program of the Syracuse School District. This provides a nursery school experience in an integrated setting for these children and also for the training of two nursery school aides who are both Negro.

HEAD START TRAINING PROGRAM

For the past four summers Mrs. Laura Preston has served as Coordinator of the training program for Head Start staff in the Syracuse area, funded through the Office of Economic Opportunity. The program includes the training of teachers, professionals, nonprofessionals, youth corps, doctors, nurses, speech therapists, psychologists, social workers, etc., to work with disadvantaged children in the Head Start program.

THE ASSOCIATE TEACHER PROGRAM

The Associate Teacher Program, funded largely by the New York State Education Department, provides "in-house supervision" at the King School to promote urban competence among student teachers from five associated universities. Syracuse University contributes $2,000 annually and from seven to fifteen students per semester to the program. During the training period, students engage in full-time teaching under supervision four days a week, attend an urban education seminar and visit other urban schools the fifth day. Evaluation data gathered over the first two experimental years of this program indicates considerable success in its attempt to educate students for a new role in urban schools.

PARA-PROFESSIONAL TRAINING

Nine adults from the inner-city are involved in the Dr. Martin Luther King School program as semi- or para-professional teaching assistants to classroom teachers. The participants receive individual specialized training as teacher's aides, library aides and receive tuition credits from Syracuse University to continue their education to prepare for full-time teaching positions.

STUDY OF LARGE CITY EDUCATION SYSTEMS

Supported by a $276,500 grant from the Carnegie Corporation, the study involved faculty from the Metropolitan Studies Program of Syracuse University and from other major universities throughout the nation, including Columbia, Northwestern, Harvard, M.I.T., the University of Georgia, University of Virginia and San Francisco State College. Focus of the study is on the economic and political problems of large-city education in five major areas--New York City, Chicago, Boston, San Francisco and Atlanta. The economics part of the study concerns the public financing of education and the interrelation between inputs and outputs of large city schools, while the political analysis ranges from the forces involved in acquiring federal funds for education to the role of teachers' organizations in making educational policy. While the research has been completed, three books by Syracuse University faculty are in the final writing stages.

ENVIRONMENTAL STUDIES INSTITUTE

The Environmental Studies Institute of Syracuse University is a multidisciplinary unit unifying a variety of academic capabilities in the study of environmental quality and the problems of pollution. Its primary mission is the development of meaningful experiences in the educational programs of elementary, secondary, and post-secondary school students. The basic activities of the Institute consist of educational research and evaluation, training of teaching personnel, instructional systems development, and instructional resources support. These activities are focused on education in environmental quality, human ecology, and land, water and air pollution. The general objectives of the Institute are: (a) to develop instructional programs to increase both the breadth and depth of knowledge concerning the problems of management of the environment, (b) to construct measures of the substantive and affective impact of environmental pollution and changing life quality on teachers and students, and (c) to disseminate environmental information concerning air, land, and water to school systems so that teachers and students can be kept constantly aware of ecological problems.

INSTITUTE FOR COMMUNITY PSYCHOLOGY

A division of the Psychological Services and Research Center of Syracuse University, the Institute for Community Psychology cooperates with many community agencies in applying psychological knowledge and methods to relevant problems. The Institute for Community Psychology does not supply direct services to clients of these agencies but assists the agencies directly in establishing services to meet client needs. The three main areas of ICP's involvements include (a) program development, (b) training, and (c) evaluation. ICP consults with school systems, community centers, hospitals and other agencies to help them improve the psychological effectiveness of existing programs to train aides, nurses, teachers, parents and others to serve in therapeutic roles; and to evaluate the effectiveness of programs designed to meet psychological needs.

CANASTOTA CENTRAL SCHOOL DISTRICT

The Canastota Central School system serves a largely rural population. The community does, however, represent a variety of socio-economic levels. About fifty-five percent of all the high school graduates attend some form of higher education.

There are 2,700 students enrolled in the Canastota School System and 1,600 of these are elementary pupils; three buildings house these pupils, two with approximately 400 pupils each and one with 800 pupils.

The district is currently planning a new structure to meet the needs of the increasing pupil population and innovative educational programs. Non-graded primary programs are functioning in the district. These programs are the result of much effort by interested citizens and professional personnel.

The district has worked with the State University of New York at Cortland and Oswego for many years, to develop programs designed to improve the teacher-learning situation. Most significant is the area of team supervision. Local school personnel have worked with college supervisors to develop methods of improving the intra-team interaction. One of the objectives of this approach is an increase in the effectiveness of the teaching team.

Canastota Central School District has also maintained a working relationship with Colgate University. The university and the district cooperate in an intern program.

Canastota has been involved in the development of many inservice programs through the years in the fields of mathematics, social studies, language arts and science. Special efforts have been concerned with areas directly related to development of techniques in the teaching-learning situation.

The sixty-four elementary teachers and fourteen support personnel are currently working with specialists from the psychology department at Syracuse University in order to develop new ways to individualize the learning process. This pilot program involves experimental and control groups and is concerned with the relationships that may exist between reward systems and achievement.

Facilities

Canastota has the usual facilities of a school system with 2,700 students. Special facilities for a computer-assisted instruction program are located in the district and are being expanded.

A new educational center for intermediate students is in the development stage. The center was designed to meet the special educational need of the community.

JAMESVILLE-DEWITT CENTRAL SCHOOL DISTRICT

Jamesville-Dewitt Central School District may be categorized as an upper middle class suburban school. Eighty percent of its graduates attend schools of higher education. There are four elementary schools with twenty-two classrooms in each building. Approximately five hundred pupils are enrolled at each school. Eighty-nine classroom teachers and six supporting personnel serve the schools.

The school district, historically, has evidenced interest in the professional growth of its staff. Inservice programs for teachers have been conducted each academic semester and a system-wide study session is held each month.

Teachers and resource leaders are employed during the summer months to prepare new curriculum material. The district also encourages and supports the production of innovative curriculum materials during the school year.

A curriculum council consisting of teachers, supervisors and administrators plan and develop curriculum revisions. As a result of the efforts of this and other group changes have been made in basic programs such as mathematics, social studies, science, and language arts. Special programs such as inservice training, group study sessions, individually prescribed instruction, and independent study programs have been planned, developed, and implemented in the district.

The school district has also encouraged the preservice education of prospective teachers. The Jamesville-Dewitt School District has cooperated with Syracuse University, The State University of New York at Cortland and Oswego, Keuka College, and LeMoyne College in the education of teacher candidates. Over the past three years two hundred and forty-five student teachers have interned in the school system.

Facilities

Approximately one hundred and fifty classrooms are available in the district. The district also has a large auditorium, six cafeterias, seven gymnasiums, seven libraries, and health facilities.

A special large group instruction room is available for conferences. Automated and communication equipment are available throughout the schools in the district. Among this equipment are nine language laboratories, seventy overhead projectors, eighty-five tape recorders, twenty movie projectors and six video tape cameras and receivers. Technical personnel are available to facilitate the use of the specialized equipment.

NISKAYUNA PUBLIC SCHOOLS

The Niskayuna School System, located in a suburb of Schenectady, New York, has established a national reputation for its systematic study and implementation of new methods of teaching and teacher education. Indicative of this are the three areas of cooperation with Syracuse

University as well as areas of cooperative development with other agencies. Niskayuna has recognized the need for continuous planned change and has responded by creating staff positions and a supportive budget for research and development. This program of research and development encompasses five areas: (1) Long-Range Planning, (2) Research, (3) Invention and Installation, (4) Information Services, and (5) Continuing Personnel Training. The research office is responsible for developing these activities and has been completely freed from operational responsibilities to effect these ends. Two major accomplishments of this office have been the ability to locate and secure external funds for experimental programs and the establishment of several cooperative consortia to study the problems of education.

The three programs planned and developed in cooperation with Syracuse University are:

1. The Independent Study Program is a program designed with the help of the Center for Instructional Communications. Now starting its fourth year in the Niskayuna Schools, it is a technologically supported program allowing students to pursue much of their learning independent of direct adult control. A K-12 program, it introduces directed self-instruction in the lower grades and evolves into self-directed instruction in the upper grades. This program has had a major impact on the role of the teacher and various support roles.

2. Long-Range Planning is a program evolving with the help of the Educational Policy Research Center, the New York State Department of Education, and the Travelers Research Corporation. This program was established because of the proliferating experimental programs and the increasing need for systematic decision-making with regard to program development and implementation. This project will establish a series of alternative hypothetical future histories, define action programs leading to identified desirable futures, and recommend policy establishment that will provide frameworks for decision-making.

3. Model Elementary Teacher Education Program is described in the description of the programs of the Center for the Study of Teaching. Niskayuna was one of the four school systems selected to assist with the feasibility study and operate a center for field experiences.

Other programs underway in the Niskayuna Schools are briefly described below.

Cooperative Program in Staff Utilization, Organization, and Continuing Education. This project, sponsored jointly by the School District and the Niskayuna Teachers Association, is a major effort to study the role of the teacher and other educational personnel. It will be a continuing task analysis of the activities of adults in a series of experimental learning environments. Out of the analysis it is planned to redefine the roles of education personnel into several new kinds of specialized roles based on performance criteria. To accomplish this major task, Niskayuna will work cooperatively with several of the education industries, several institutions of higher education, and other school districts.

Redesigned Student Teacher Experiences. In new learning environments old patterns of student teaching have to change. Niskayuna, in cooperation with Skidmore College and State University of New York at Oneonta, is experimenting with several new approaches to student teaching.

Organizational Development. This technique, used primarily in industry to increase the satisfaction (and thereby production) of employees, has not been extensively tested in educational systems. Niskayuna, in cooperation with the Center for Humanistic Education at the State University of New York at Albany, is planning methods for testing these techniques with experimental groups in school settings. The first experimental group started in the fall semester, 1969.

Facilities

The buildings and physical equipment possessed by the Niskayuna Central School District are similar to the facilities found in most progressive school districts. Niskayuna has been fortunate, however, to acquire instructional communications equipment, and other supportive facilities for the specialized programs noted above.

SYRACUSE CITY SCHOOL DISTRICT

The Syracuse City School District has eighteen thousand elementary school pupils. The system serves the usual wide-range of social and economic classes that may be found in an urban center of the Northeastern United States. Approximately thirty percent of the elementary school population is nonwhite.

Thirty-one elementary school buildings, ranging in capacity from 400 to 1,200 pupils, presently house the elementary pupils of the district. Seven hundred and fifty elementary teachers and over 400 support personnel are employed by the school district.

Since 1963 the district has been engaged in inservice training of inner-city teachers. Consultants and instructional specialists from the Team Planning Program of the district contributed to the development of this program. The Team Planning Unit has also planned and developed other workshops and conferences for the continued professional education of the teachers.

The Special Projects Division has done extensive developmental work with programs and materials. As a result of this division's efforts, innovative instructional materials have been developed for use in special and basic programs.

The district has developed a master plan for replacing outmoded schools with modern facilities, innovative programs, and inservice training programs for the professional and nonprofessional staff. Research projects conducted throughout the district continue to provide inputs to the master plan.

The Syracuse City School District has maintained a close working relationship with Syracuse University, LeMoyne College, and the State University of New York at Cortland and Oswego for many years. The focus of this relationship is the preservice and inservice training of teachers. Approximately 500 student teachers have participated in this program over the past three years.

The school district has, in cooperation with Syracuse University, developed and implemented an Urban Teacher Preparation Program. The Syracuse City School District has also cooperated with Syracuse University in a mid-career re-entry program designed for women desiring to resume teaching and in a Peace Corps Teacher Training Program.

Facilities

The Special Projects Division has complete office facilities available for use in research, development, dissemination and evaluation activities. The usual complement of audio visual equipment, conference rooms, cafeterias, auditoriums, gymnasiums and classrooms found in a large urban school district are also available.

SYSTEM DEVELOPMENT CORPORATION (SDC)

This organization is one of the nation's oldest and largest firms providing research, analysis, and developmental services in fields related to information systems, training, and education.

SDC's Education Systems Department headed by Dr. Harry F. Silberman, has, over the past decade been involved in many types of research, development, and implementation projects sponsored by federal, state and private agencies. As a result of this work, a unique and outstanding capability has been acquired. Some of SDC's projects relating to educational problems are described below.

1. Study of College and University Computer Uses: Under the joint sponsorship of the American Council on Education and the College Entrance Examination Board, SDC conducted a nation-wide study of the uses of computers in colleges and universities. The final report of this project, Computers on Campus, was published in 1967 as a report to principal administrators, with the intent of clarifying some major issues and providing a background against which to make decisions about computer acquisition and the uses of computers on their own campuses.

2. Master Plan for New York State Regional Educational Data Centers: Under contract with the New York State Department of Education, SDC provided the technical assistance necessary to perform a state-wide educational data processing study. The major purpose of the study was to develop a comprehensive plan for a system of cooperative regional educational data centers which will provide services to the elementary and secondary schools of the entire State except for New York City. The project was designed to ensure the orderly development of an efficient information processing capability within the state in order to meet the immediate and long-range needs of the local school districts, as well as those of the Department of Education, for collecting, processing, and disseminating information on all educational programs, locally and statewide.

3. Rockland County, New York: Study of Information Processing Requirements: Sponsored by the Division of Educational Management Services of the New York State Department of Education, SDC performed a three-month information processing requirements study of the school districts of Rockland County. The principal objectives of the study were to (1) evaluate the plans and recommendations included in an earlier State Department-sponsored study of data processing; (2) advise and assist in the development of operational descriptions of the common information processing requirements of the school

districts of Rockland County; and (3) provide operational guidelines for the development and implementation of a regional educational data system center to be operated under the authority of the Rockland County Board of Cooperative Educational Services.

4. Educational Resource Center, Orange, New Jersey: SDC provided technical assistance to the Orange, New Jersey, Board of Education in planning an educational resource center. A functional design and operational plan was prepared, and services offered by the center were designated. Requirements for space, equipment, personnel, and funds for development and operation were estimated. In addition, requirements for a data processing facility were analyzed.

5. Instructional Management and Budget Planning Systems for SWRL: SWRL (the Southwest Regional Laboratory for Educational Research and Development) is concerned with solving educational problems in the fast-growing region which includes Arizona, Southern Nevada, and Southern California. SDC and SWRL staff members have worked together to design and implement a prototype computerized system encompassing instructional and administrative features that provide administrators with an integrated approach to the needs of school management.

6. Design and Implementation of a Management Information System for the District of Columbia Public Schools: In a series of contracts with the Washington, D.C., schools, SDC analyzed the feasibility of a computer-based management information system, developed system specifications, provided computer programming support, and assisted with installation and start-up of the completed system.

7. Trimester Computerized Scheduling Demonstration: In contracts with the Office of Special Studies of the State of New York, SDC conducted a research project to test the administrative feasibility of a trimester plan of school organization through the use of an improved computerized student scheduling system.

8. Fiscal Accountability System for the New York City Board of Education: SDC initiated a fiscal accountability processing system for federally funded programs within the New York City schools. The objectives of the project were to delineate and compare the accountability requirements for federal programs imposed on the Board of Education by federal, state, and local agencies.

Facilities

SDC corporate headquarters are located in Santa Monica, California. Major offices are located in Falls Church, Virginia; Lexington, Massachusetts; Paramus, New Jersey; Dayton, Ohio; Colorado Springs, Colorado; and Rome, New York. Field representatives are stationed throughout the United States and in Canada, Western Europe, and the Pacific.

Although SDC does not manufacture hardware, the Corporation operates several engineering laboratories and related digital support areas at the Santa Monica complex. Current operational facilities include simulation and bread-board laboratories, with associated design and fabrication support.

SDC's computer and laboratory facilities are a major corporate resource. A number of computers have been centralized within the Computer Center in Santa Monica Corporate headquarters. Based on the three-stage implementation of IBM System/360 computers including the duplexed Model 360/67, the center provides greatly increased capacity.

POLICY RESEARCH INSTITUTE

The Syracuse University Policy Institute operates within the Syracuse University Research Corporation. It is involved in an array of studies too numerous to explain in detail. Some examples of relevant studies which trainees may become involved are:

1. Sociological Implications of Advances in Technology. This is the preparation of a report outlining the state of knowledge in technology assessment and "future studies." This activity is being supported by the Cogar Foundation.

2. Secondary School Disruptions. This is a survey of the causes and remedies for unruliness and violence in integrated American high schools supported by the Department of Health, Education and Welfare.

3. Federal Aid to Education Phases II and III. A study of state and Federal decision-making on Federal aid to education, and the development of recommendations for new legislative formulas and administrative procedures.

4. Educational Research and Development. A study of the state of research and development on education in the United States supported by the United States Office of Education.

5. Work Study Project. An analysis of existing

work study programs for the under-priveleged and the design of an improved program for Syracuse.

6. Lysander New Town. A study of the governmental and intergovernmental questions involved in the establishment of a new town in Lysander, N.Y.

7. Federal Aid to Education Phase I. A study of the allocation of Federal aid by states to determine differential benefits by type of school district. This project was funded by the Ford Foundation and the Urban Coalition.

EDUCATIONAL POLICY RESEARCH CENTER (EPRC)

The Policy Research Center is a cooperative effort between the Syracuse University Research Corporation, the School of Education and the Maxwell School of Citizenship. The Center focuses on educational policies of the future. Officially it is an arm of the Syracuse University Research Corporation. The Policy Center brings together a wide variety of specialists whose objective it is to estimate education "futures" of 20 or 25 years hence.

The purpose of the Center is to develop "scenarios" which depict alternative possibilities for society in the years 1980-2000. Projections are based on such factors as estimated economic growth, technological development, family structure, population distribution, and changing human values. Sometimes described as the "think-tank" the Policy Center challenges graduate students and professors to assess every facet of education's future.

The following are some current projects occurring at EPRC:

1. Methodological Techniques: The Center is engaged in the development and adaptation of several methodological techniques for use in systematic conjectures about social and educational futures.

2. Simulation-Gaming and the Future: The Center is now working with a group at Cornell University in the application of simulation-gaming techniques to the future of the urban ghetto with a special emphasis on goal mixes and value structures of ghetto residents. The simulation-gaming effort, with the addition of other substantive areas, is now projected as a long-term project of EPRC.

3. Organizational Arrangements and New Instructional Systems: The Center has also recently initiated for the Office of Education, a study of the likely future consequences of: (a) changes in the teaching profession (especially teacher organization and militancy), (b) alternative organizational patterns for the school system, and (c) new instructional systems (with an emphasis on various forms of individualized instruction).

4. Future Studies, Education, and Policy: The Center is currently engaged in a study for the Office of Economic Cooperation and Development of alternative educational futures in the United States and the relation of these futures to policy decision-making.

5. Negro Learning Force: The Center has underway a study of the "Negro Learning Forces", its size, composition, past and projected changes, and the contribution of core educational institutions compared with peripheral programs.

Facilities

The Educational Policy Research Center has an office complex near the Syracuse University campus. Included in this complex are: a conference room for thirty participants, a developing library devoted to the educational system and educational-social future studies, and an IBM-APL/360 time sharing terminal.

INVITED PARTICIPANTS

INVITED PARTICIPANTS

The following list of individuals and the institutions they represent are presented to give an overview of the nature and extent of our efforts to involve a varied representation of participants in the SCERT program. Included in the list, where applicable, is a brief paragraph explaining why that particular institution did not agree to participate in the Syracuse cooperative.

Educational Industries

Systems Development Corporation: William Kent

Syracuse University Research Corporation: Stephen F. Bailey

Eastman Kodak: Gordon Tubbs, Director
Instructional Technology Markets
Raymond Kicklighter, Director
Learning Systems Laboratory

Eastman Kodak was contacted and invited to attend a meeting in Syracuse with the directors of the design phase. At this conference both gentlemen expressed an interest in the design of the SCERT program. They indicated that they would think about their possible involvement and contact SCERT staff shortly. Their response and concern was that participating in a program such as described in this document would put them at a competitive disadvantage with industries similar to their own who were also involved in SCERT. They therefore decided not to become involved in SCERT.

General Electric: Heinz Pfeiffer, Director,
Educational Programs
Al LaBlang, Educational Programs
E. Lloyd Rivest, Research and
Development Center

Extensive efforts were made on numerous occasions to contact the illusive G.E. Either due to their lack of interest, poor timing on SCERT's part or a combination of other factors, no extensive communication occurred between SCERT staff and General Electric Corporation, hence their non-involvement.

Eastern Regional Institute for Education: Richard Wallace, Director
Henry Cole, Coordinator
Richard Andrulis, Coordinator

ERIE provided numerous inputs into the developmental stages of the specifications for the SCERT program. Their future resources and commitments are currently in question but continued communication is open and on-going.

Finger Lakes Regional Planning Center: Stuart Naidich, Planner
Thomas Schurtz, Planner

New York State Education Department: Lorne Woollatt, Associate Commissioner for Research and Education
Robert Milkman, N. Y. State Education Dept.
Lou DiLorenzo, N. Y. State Education Dept.

Vermont State Education Department: Joseph Oakey, Commissioner

Public Schools

Canastota Central Schools: Donald Rielle, Superintendent

Jamesville-Dewitt Central Schools: Harold Rankin, Superintendent

Niskayuna Public Schools: James Purcell, Director, Office of Research and Development

Syracuse Public Schools: Rudolph Zieschang, Director, Curriculum Services
Paul Casauant, Research and Evaluation

Institutions of Higher Education

Cornell University: Emil Haller (Materials Development Project RFP 70-27)

Conversations were held with Dr. Haller about the compatability of his materials for the SCERT program. Contact between Dr. Haller and the SCERT program would continue as materials began to be developed.

Medgar Evers Community College Association (MECCA): Charles Evers, Mayor
Fayette, Mississippi
Edward Cole, MECCA
Benny Knox, MECCA

Conversations are currently underway to determine a workable relationship between MECCA and SCERT.

Onondaga Community College (OCC): Marvin Rapp, President
Harvey Charles, Vice President
Michael Falcone, Research

The representatives from Onondaga Community College did not see the SCERT program as consistent with their current priorities. They are currently building a new campus and evaluation and research training did not fit their goals for OCC.

State University of New York at Cortland: Lawrence McNally, Research Director
Research and Demonstration Center
Cortland, New York

Syracuse University:

Stephen Bailey	Director, Policy Institute
Donald Ely	Chairman, Instructional Technology
Ken Fischell	Assoc. Director, Instructional Technology
Eric Gardner	Chairman, Psychology
Harold Herber	Reading Center
John Honey	Vice President for Research
Allen Hershfield	Associate Dean, School of Library Science
Margaret Lay	Director, Day Care Center
William Meyer	Director, Early Childhood Education Center
Barton Schwartz	Chairman, Anthropology
David Sherrill	School of Library Science
David Krathwohl	Dean, School of Education
Robert Stewart	Associate Dean, School of Education (deceased, December 1970)
Tom Vickery	Director, Environmental Studies Institute
Wilford Weber	METEP Project Director
Charles Willie	Chairman, Sociology
Warren Ziegler	Acting Director, Educational Policy Research Center

VITAS OF PERSONNEL

STEPHEN KEMP BAILEY

Stephen K. Bailey is Chairman of the Policy Institute of the Syracuse University Research Corporation and Maxwell Professor of Political Science in the Maxwell Graduate School of Citizenship and Public Affairs of Syracuse University. He is also a Professor of Educational Administration in Syracuse University's School of Education. He received his B.A. in Economics at Hiram College in 1937. He was a Rhodes Scholar from 1937 to 1939 and received both a B.A. and an M.A. from Oxford University. He also holds an M.A. and Ph.D. from Harvard University. Before joining the Maxwell School in 1959 as Professor of Political Science, Dean Bailey served on the faculties of Hiram College, Wesleyan University, and Princeton University. At Princeton he was William Church Osborn Professor of Public Affairs and Director of the Graduate Program in the Woodrow Wilson School of Public and International Affairs. He has also been a Fulbright Lecturer in American Government at Oxford University.

Dr. Bailey was a founding member and for a time Secretary-Treasurer of the National Academy of Education. He is a past President of the American Society for Public Administration (term expired March, 1968) and a past Vice President of the American Political Science Association (term expired September, 1969).

In addition to his academic and professional activities, Dr. Bailey is an active participant in public affairs. He is currently a member of the Board of Regents of the State of New York and Chairman of the National Advisory Committee on Educational Laboratories (Department of HEW). In 1964 he was a member of the Presidential Task Force on Government Reorganization, and in 1965 he headed the U. S. Bureau of the Budget Task Force on Intergovernmental Program Coordination. In the past, Dr. Bailey served as a Staff Associate to Task Force #1 on the Presidency of the First Hoover Commission. Later he became Director of Task Force #1 on the Executive branch for the Connecticut Commission on State Government Organization. Dr. Bailey was Chairman of the Connecticut Democratic State Platform Committee in 1950 and in 1951 became Administrative Assistant to Senator William Benton of Connecticut. He was elected Mayor of Middletown, Connecticut, in 1952.

Dean Bailey is the author of many books and articles on politics, government, and education including Congress Makes a Law, 1950, winner of the Woodrow Wilson prize of the American Political Science Association; The New Congress, 1966, and Congress in the Seventies, 1970; ESEA: The Office of Education Administers a Law, 1968, co-authored by Edith K. Mosher. Among his articles and monographs are "The Condition of Our National Political Parties," 1959; "Ethics and the Politician," 1960; and "The Office of Education and The Education Act of 1965," 1966. He is co-author of Congress at Work, 1952; Government in America, 1957; Schoolmen and Politics, 1962; and The Problems and Promises of American Democracy, 1965.

Arthur Blumberg

Education: University of Connecticut, (Business Administration), B.S., 1950
Springfield College, (Group Work), M.Ed., 1951
Columbia University, (Social Psychology), Ed.D., 1954

Positions:

1954	Assistant Professor of Group Relations, Springfield College
1957	Assistant Professor of Educational Psychology, Temple University
1961	Associate Professor of Educational Psychology, Temple University
Present	Professor of Education, Syracuse University

Publications:

Sensitivity Training and the Laboratory Approach (with R. Golembiewski), Peacock Publishing Co., 1970.

Understanding and Improving School Faculty Meetings (with Edmund Amidon), St. Paul, Minn., Paul S. Amidon Associates, 1966.

"Teacher Morale as a Function of Perceived Supervisor Behavior Style," (with Wilford Weber) Journal of Education Research, 62, 3, November, 1968.

"The Laboratory Approach to Organization Change: Confrontation Design," (with Robert Golembiewski) Academy of Management Journal, 11, 2, June, 1968.

"Supervisory Behavior and Interpersonal Relations," Educational Administration Quarterly, Spring, 1968.

"Confrontation as a Training Design in Complex Organizations: Attitudinal Changes in a Diversified Population on Managers," Journal of Applied Behavioral Science, 3, 4, 1967.

"Training and Relational Learning: The Confrontation Design," (with Robert Golembiewski) Training and Development Journal, 21, 11, November 1967.

"The Special Education Teacher's Understanding of Statistics: A Study," (with Donald Hammill), The Journal of Special Education, 1, 2, Spring 1967.

Eric F. Gardner

Education: A.B., (Mathematics) Harvard College, 1935
Ed.M., (Education), Boston Teachers College, 1936
Ed.D., (Measurement & Statistics), Harvard Graduate School of Education, 1947

Positions:

1968-	Margaret O. Slocum Professor of Psychology and Education, Syracuse University
1961-	Chairman, Psychology Department, Syracuse University Director, Psychological Services and Research Center, Syracuse University
1952-61	Director, Division of Advanced Studies, School of Education, Syracuse University
1947	From Assistant Professor to Professor of Psychology and Education, Syracuse University
1961	Editor, Psychology volumes in the Hundred Volume *Library of Education*
1946-47	Instructor, Harvard University
1942-46	Naval Architect, USNR (lieutenant)

Publications:

Gardner, E. F. Normative Standard Scores in *Principles of Educational and Psychological Measurement*, Mehrens, William A. and Ebel, Robert L. (ed.) 53-60, 1967.

Gardner, E. F. "Some significant factors in test interpretation," Chapter VIII in Payne, David A., and McMorris, Robert F., *Educational and Psychological Measurement*, 201-204, Blaisdell Publishing Company, 1967.

Gardner, E. F. (ed.) *Proceedings, 1962 Invitational Conference on Testing Problems*, Educational Testing Service.

Gardner, E. F. (Issue editor) *Review of Educational Research*, Vol. XXXII No. 1, February, 1962

Madden, R., Gardner, E. F., Rudman, H., Karlsen, B., Merwin, J., *Stanford Achievement Tests*, Harcourt, Brace and World (in press, 1973 edition).

Madden, R. and Gardner, E. F. *Stanford Early School Achievement Test*, New York, Harcourt, Brace and World, 1969.

Durost, W., Gardner, E. F. and Madden, R. *Analysis of Learning Potential Test*. New York, Harcourt, Brace and World, 1969.

Publications (Continued)

Gardner, E. F. Review and critique of the Cooperative Academic Ability Test in O. K. Buros, ed. Seventh Mental Measurements Yearbook, Highland Park, New Jersey. The Gryphon Press (in press).

Gardner, E. F. Review and critique of the Lorge-Thorndike Intelligence Tests, College Edition, in O. K. Buros, ed. Seventh Mental Measurements Yearbook, Highland Park, New Jersey, The Gryphon Press (in press).

Gardner, E. F. Using tests to improve the efficiency and quality of learning. Improving the Efficiency and Quality of Learning, American Council of Education, 89-101, 1961.

Myers, L. Jr. and Gardner, E. F. An inexpensive method to determine the efficiency of a television program. Journal of Applied Psychology, Vol. 44, No. 1, 1960.

Dennis D. Gooler

Education: University of Minnesota at Duluth, B.S., 1965
University of Minnesota at Minneapolis, M.A., 1968
University of Illinois at Urbana-Champaign, Ph.D., (Expected February 1971)

Positions:

Teacher - Osseo Junior High, Osseo, Minnesota; 1966-68; Taught English and Social Studies

Research Assistant - Center for Instructional Research and Curriculum Evaluation (CIRCE), University of Illinois at Urbana-Champaign; 1968 to present; Material development, instrumentation, and administrative duties associated with various evaluation projects.

Evaluation Consultant/Specialist - Evaluation of a BEPD Institute on Training Educational Program Evaluators, University of Virginia, Summer, 1969; Evaluation of a fellowship program (Teaching the Talented), University of Connecticut, 1969-70.

Publications:

"Evaluation and Change in the Social Studies," Educational Product Report. 1969, 3, 6-13.

Institute on Educational Program Evaluation: From Realization to Action. (An Account of an Institute.) Urbana, Ill.: CIRCE, 1969 (Mimeo).

"Data Collection for Educational Decision-Making: Establishing Priorities." CIRCE Working Paper No. 1. Urbana, Ill.: CIRCE, 1969.

"Process Accountability in Curriculum Development." Curriculum Theory Network. Special Issue No. 1 on Curriculum Development. Toronto: OISE, 1970 (in press). With Arden Grotelueschen.

Measuring Educational Priorities. Paper read at the American Educational Research Association Annual Meeting. Minneapolis, Minnesota, March 4, 1970. With Robert Stake.

"Evaluating Geography Courses: A Model with Illustrative Application." Technical Bulletin No. 2. American Association of Geographers (in press). With James Wardop and J. Thomas Hastings.

The Teaching the Talented Program: A First Stage Evaluation. Urbana, Ill.: CIRCE, 1969. (Mimeo)

BERJ HAROOTUNIAN

Education

B.S. (social science)--University of Pennsylvania, 1950.
M.S. (education)--University of Pennsylvania, 1951.
Ph.D. (educational measurement and research)--University of Pennsylvania, 1959.

Positions

1967-present	Associate Professor, Syracuse University
1961-1967	Associate Professor, University of Delaware
1958-1961	Assistant Professor, University of Delaware
1965-1966	Assistant Dean, College of Graduate Studies, University of Delaware
1957-1958	Lecturer, University of Pennsylvania
1960-1962	Lecturer, University of Pennsylvania
1961	Summer School, University of Maine
1955-1958	Administrator, Springfield (Pa.) Public Schools
1953-1955	Teacher, Springfield (Pa.) Public Schools
1951-1953	Teacher, Media (Pa.) Public Schools
1948-1952	Instructor and Program Director, Center City Settlement House, Philadelphia, Pennsylvania

Other Recent Activities

Field Reader, Cooperative Research Program, United States Office of Education, 1964-
Consultant, various research projects at the University of Delaware, Manhattenville College, University of Pennsylvania, Columbia University, Syracuse University and other institutions.
Consultant, Harford County (Md.) Public Schools, 1966.
Member, selection panel for junior high principals, School District of Philadelphia, 1967.
Fellow, First Research Conference on Learning and the Educational Process, Stanford University, summer, 1964.
Director, N.D.E.A. Counseling and Guidance Institute, University of Delaware, summer, 1960.
Item writer and critic, Educational Testing Service, 1966-1967.
Field evaluator for Office of Education, Mid-continent Regional Educational Laboratory, 1968.

Interests and Competencies

Educational and psychological measurement and research, problem-solving, self-concept, achievement motivation, conceptual systems theory, teacher behavior.

Current Projects

Studying problem-solving strategies of medical students through computer simulation of patients.
Effects of teacher behavior on self-concepts of students.
Differences between segregated and desegregated Negroes.
Book (working title), *Alternatives to Ability Grouping: Theoretical and Practical Implications*.

Publications

Differences between good and poor problem-solving (with M. W. Tate and B. Stanier); Philadelphia: University of Pennsylvania, 1959.

"The Relationship of Certain Selected Variables to Problem-Solving Ability" (with M. W. Tate); Journal of Educational Psychology, 51:326-333, 1960.

"Statistical Problems and Procedures in the Study of Differences Between Good and Poor Problem-Solvers" (with M. W. Tate), American Educational Research Symposium on Statistical Methodology, 1960 (mimeographed).

"A Note on Closure and Reading," The Reading Teacher, 14:343-344, 1961.

"Differences Between Good and Poor Problem-Solvers: Ideational Fluence" (with M. W. Tate); paper presented at the annual meeting of the American Educational Research Association, 1962.

"Teaching as Problem-Solving" (with B. R. Joyce); The Journal of Teacher Education, 15:420-427, 1964.

"Intelligence and the Ability to Learn," Journal of Educational Research, 59:211-214, 1966.

"The Teacher as Problem-Solver: Extra-Class Decision Making," paper presented as part of American Educational Research Association Symposium, Curriculum and Instruction: A Dialogue on the Reconstruction of Theory, 1966.

"Intellectual Abilities and Reading Achievement," The Elementary School Journal, 66:386-392, 1966.

"The Development of Intellectual Abilities of Seventh-Grade Students in Modern and Traditional Mathematics Programs" (with Florence E. Fischer), paper presented at the annual meeting of the American Educational Research Association, 1967.

"Differences among Students Entering, Leaving, and Remaining in an Elementary Education Program" (with Marianne Bobbin), paper presented at the annual meeting of the American Educational Research Association, 1967.

The Structure of Teaching (with B. R. Joyce); Chicago: Science Research Associates, 1967.

Review of Children Who Read Early by Dolores Durkin in Teachers College Record, 69:290-293, 1967.

"Self-Other Relationships of Segregated and Desegregated Ninth Graders," paper presented at the annual meeting of the American Educational Research Association, 1968.

Review of Choosing Materials to Teach Reading by K. S. Goodman et al. Teachers College Record, 69:504-506, 1968.

Publications (continued)

Characteristics of Segregated and Desegregated High School Students Prior to Desegregation, U. S. Office of Education Cooperative Research Report, Project No. 6-8790, 1968.

"The Information and Evaluation Support System," Chapter 13, in Specifications for a Comprehensive Undergraduate and Inservice Teacher Education Program for Elementary Teachers, U. S. Office of Education Report, Project No. 8-9018, 1968.

"Achievement motivation of segregated Negroes, desegregated Negroes, and whites," paper presented at the annual meeting of the American Educational Research Associates, 1969.

"Need achievement, test anxiety, and self-concept of ability as predicto of cognitive performance of segregated Nagroes, desegregated Negroes, and whites," paper presented at the annual meeting of the American Educational Research Association, 1969.

"The Reinforcement Behavior of Teachers in Training," paper presented at the annual meeting of the American Educational Research Association, 1970.

WILLIAM P. KENT

Dr. Kent, who joined System Development Corporation in 1958, has had wide experience in the field of education and systems. He is now Head of SDC's Education Systems Staff in Falls Church, Virginia. During the past four years, he has directed a number of projects, including a planning study for Gallaudet College, Washington, D. C., to develop ten-year requirements for applications of advanced education technology. Other projects directed include design of a cost-effectiveness instructional system for the Coast Goard, aspects of system planning for the Appalachia Educational Laboratory, a review and evaluation of the Armed Forces Adult Education Program, a study for the U. S. Office of Education of the feasibility of a laboratory approach to classroom multi-media problems, and a study of the feasibility of applying computer technology to keyboard music instruction.

Dr. Kent's academic background includes a B.S. in mathematics and physics and a Ph.D. in philosophy, both from the University of Chicago. He taught graduate and undergraduate philosophy for thirteen years and has published numerous professional articles.

At the University of Chicago, he served as Instructor in Philosophy and Examiner in the Office of the University Examiner with responsibilities for evaluation of course and examination effectiveness. At the University of Utah, he was Associate Professor of Philosophy, teaching and conducting research in methodology, logic, value theory and the history of ideas. He was President of the University of Utah chapter, American Association of University Professors, a member of numerous academic committees, and frequently participated in educational radio and television programs. For one year he was Fulbright Lecturer in the History and Philosophy of Science at the University of Leeds, England.

Dr. Kent's work with complex systems and programs has included analysis, design, implementation, training and management. For two years he was on leave from SDC to the Naval Command Systems Support Activity, Washington, D. C., where he managed computer program production and over-all requirements planning for a number of medium and large-scale computer installations. He was responsible for implementation of program systems to provide comprehensive cost and other management information.

DAVID R. KRATHWOHL

Current Position:	Dean and Professor, School of Education Syracuse University, Syracuse, New York 13210
Earned Degrees:	B.S. Psychology, University of Chicago, 1943 M.S. Educational & Psychological Measurement, University of Chicago, 1947 Ph.D. Educational & Psychological Measurement, University of Chicago, 1953
Former Positions:	1949-55 Assist. Director of Unit of Evaluatio Bureau of Educational Research, and Assist. Professor of Education, Unive ty of Illinois. 1955-65 Research Coordinator and Director (196 -65), Bureau of Educational Research, College of Education, Michigan State University. Assoc. Professor and Professor, College of Education, Michigan State University (1957-65) 1965- Dean and Professor, School of Education, Syracuse University
Selected Publications:	(with)Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., Taxonomy of Educational Objectives, the Classification of Educational Goals, Handbook I: Cognitive Domain. New York: Longmans Greene and Co., 1956. (with) Bloom, B. S., Masia, B., Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook II: Affective Domain. New York: David McKay, 1964. (with) Kagan, N., and Farquhar, W. W. "IPR - Interpersonal Process Recall: Stimulated Recall by Videotape," Educational Research Series, No. 24, 1965, East Lansing: Michigan State University (with) Gordon, J., Payne, D., "The Effect of Sequence on Programmed Instruction," American Educational Research Journal, Volume 4, Number 2, March 1967.
Professional Affiliation:	American Educational Research Association (Vice-President for Division of Measurement and Research Methodology, 1964-67; President - 1968-69) American Psychological Association (Secretary-Treasurer for Division 15 - 1963-66; Member of Council of Representatives - 1963-69) American Statistical Association Eastern Regional Institute for Education (ERIE), USOE Regional Laboratory (Chairman, Board of Trustees, 1966-)

Donald L. Meyer

Education: University of Minnesota, (Math. Education), 1954, B.S.
University of Minnesota, (Statistics-Math.), 1968, M.A.
University of Minnesota, (Statistics-Ed. Psych.), 1961, Ph.D.

Positions:

1964-	Associate Professor, Syracuse University
1960-64	Assistant Professor, Syracuse University
1955-60	Teaching Assistant, University of Minnesota; taught section of elementary statistics; supervised statistics laboratory.
1954-55	High school teacher of math., Freeborn, Minn.

Publications:

Meyer, Donald L. and Collier, Raymond O. (Eds.) *Bayesian Statistics, (Ninth Annual Phi Delta Kappa Symposium on Educational Research)*, Itasca, Ill: F. E. Peacock, 1970, 138 pp.

Meyer, Donald L., *Educational Statistics,* New York: The Center for Applied Research in Education, Inc., 1967, 116 pp.

Meyer, Donald L. "Statistical Decision Theory," *Maxwell Review*, 1967, 3, 57-62.

Meyer, Donald L. "Bayesian Statistics," *Review of Educational Research*, 1966, 36, 503-516.

Chilman, Catherine S. and Meyer, Donald L., "Single and Married Undergraduates' Measured Personality Needs and Self-rated Happiness," *Journal of Marriage and the Family*, 1966, 28, 67-76.

Meyer, Donald L., "A Bayesian School Superintendant," *American Educational Research Journal*, 1964, 1, 219-228.

DiVesta, F. F., Meyer, D. L. and Mills, J., "Confidence in an Expert as a Function of his Judgments," *Human Relations*, 1964, 235-242.

STUART NAIDICH

Education

B.S.	(Chemistry)--Allegheny College, 1957
M.A.	(Social Studies/Education)--Syracuse University, 1964.

Positions

1969-Present	Planner, Finger Lakes Region Educational Planning Center
1968-69	Research Associate, Finger Lakes Region Supplementary Education Center
1967-68	Intern, Finger Lakes Region Supplementary Education Center
1965-66	Teacher, American History, West Genesee High School
1960-63	Teacher, Social Studies, Meadville High School
1962	Coordinator, Curriculum Materials Center, Allegheny College
1961-63	Coordinator, Student Teaching, Allegheny College
1958-59	Permanent Substitute, Westchester County School System

Honors and Offices

1970-Present	Chairman, Communications Task Force, Regional Center Network
1969-Present	Member, Executive Board, Syracuse University Protocooperative Model Teacher Education Project
1969-Present	Representative, Roundtable, Cortland-Madison BOCES
1968-70	Member, Dissemination Task Force, Regional Center Network
1968-69	Member, Executive Board, Neurological Project, T-S-T BOCES
1966-67	Research Assistantship, Social Science, Syracuse University
1963-64	All University Fellow, Education, Syracuse University
1961-63	Legislative Chairman, Pennsylvania State Education Association, Representative Meadville Public Schools

Publications

Publications consist of funded projects under ESEA, Title III. Among these projects are:

1967	Neurologically Oriented Physical Education Project for the Handicapped (Tompkins-Seneca-Tioga BOCES) $105,000
1968	Shared Work Approach to Prescription (IPI, Cortland and Middletown City Schools, collaboratively written) $14,000
1968	Educational Personnel Development Project (Finger Lakes Three-county Region, collaboratively written) $99,914

Publications under ESEA, Title I:

1967-69	Elementary Corrective Reading Program (Moravia Central School)
1968	Multi-Media Learning Center (Homer Central School, collaboratively written)

12/14/70

JOSEPH H. OAKEY

Education

Ed.B., 1950, Keene Teachers College, Keene, New Hampshire (teaching preparation in Mathematics, Physics and Chemistry).

Ed.M., 1955, University of Illinois, Urbana, Illinois (major and minor areas, Curriculum Development and Philosophy).

Teachers College, Columbia University (graduate work in educational administration).

Syracuse University, Syracuse, New York: Completed (May, 1968) course work and residence toward Ph.D. Major area: Instructional Communications; minor: Educational Administration. Dissertation in progress. Concentration: A study of the process of planning for change with an attempt to establish some steps that should be taken by school systems (or others) in order to carefully plan for change, the process of installing, monitoring and evaluating these changes.

Educational Experience

1968 to present	Director, Research and Development; Niskayuna Public School, Schenectady, New York.
1961-1968	Principal, Niskayuna High School, 9-12 high school, 1300 pupils; during tenure, curriculum reforms effected, major addition planned and built, audio-visual program expanded to major role in school, house plan developed and independent study program started.
1959-1961	Principal, Lynnfield High School, Lynnfield, Massachusetts. 7-12 high school, 900 students. During tenure, curriculum and teaching reforms effected, new high school planned, organizational practices refined, audio-visual program started.
1956-1959	Principal, Hale High School, Stow, Massachusetts. 7-12 high school, 250 pupils. During tenure, major organizational, curricular and teaching reforms effected.
1955-1956	Principal, Canaan Public Schools, Canaan, New Hampshire. 1-12 school system, 250 pupils.
1950-1955	Teacher, Pittsfield and Hillsbro Public Schools, New Hampshire. Taught physics, mathematics, general science and chemistry.

Industrial Experience

Fee and Stemwedel, Inc. (now Airguide, Inc.), Chicago, Illinois. Employed as product designer. Was engineering designer for weather instruments and field glasses.

Power Plant Specialty Co., Chicago, Illinois. Employed as field installation supervisor. Supervised the installation of industrial water softening equipment. Trained stationery engineers prior to takeover of equipment.

Filshie Lead Head Nail Co., Chicago, Illinois. Employed as production supervisor in the manufacture of a variety of fastening products. Scheduled production, supervised production employees.

Miscellaneous Experience, Field Work and Publications

School Accreditation: Since 1957 have worked with both New England and Middle States Association of Colleges and Secondary Schools in evaluation of secondary schools for accreditation. Have served in capacity of team member, assistant chairman and chairman. Assisted in development of guidelines for chairmen.

Consulting and Speeches: Speeches and Consulting in a variety of areas, primarily: (1) Using Technology to Individualize Instruction, (2) Independent Study Programs, (3) Staffing Patterns and Teacher Education, (4) Planning for Systematic Change, and (5) Long-Range Educational Planning.

Consultant to or Member of:

(1) White House Commission for National Goals in Education
(2) American Management Association: Center for Planning and Development
(3) California Association of Secondary School Administration--Planning Education for the Future
(4) National Association of Secondary School Principals--Future Objectives and Priorities for Education
(5) National Council for Teacher Education and Professional Standards
(6) Syracuse University: Syracuse Model Elementary Teacher Education Project
(7) The Council--Eastern Regional Institute for Education

Independent Study Project: In 1965 the above project was written and funded under Title III ESEA. It provides for the development of independent study on a K-12 grade basis in the Niskayuna Schools. The major effort here was to coordinate the efforts of many teachers, students, administrators, external agencies, both educational and industrial, toward a major change in the organization and presentation of curriculum materials. The effort appears to be successful, and the project is making many changes in education both in Niskayuna and in many school systems that are observing the Niskayuna efforts.

Publications:

Independent Study: A Continuous Program from Elementary Through Secondary Education
May 23, 1966

Facility Development for Independent Study Programs
June 17, 1966

Planning for Inservice Teacher Education Component
November 4, 1968

Publications
continued:

Research and Development in the Niskayuna Schools
December 18, 1968

Model of Differential Staffing Pattern
January 2, 1969

Long Range Planning: A Design and Justification
April 29, 1969

ESEA Title III: Its Effect on the Niskayuna Schoo
September 12, 1969

Cooperative Program in Educational Personnel
Reorganization, Utilization and Continuing Education
November 21, 1969

Individualized Instruction--An Heuristic View
March 6, 1970

Planning for Educational Change
April 6, 1970

Target Areas for Educational Change
April 14, 1970

THOMAS SAMPH

Academic Background

B.S. 1965, Temple University; Major--History; Minor--Psychology.

M.Ed. 1966, Temple University; Educational Psychology (special emphasis on Group Dynamics and Learning).

M.A. 1967, The University of Michigan.

Ph.D. 1968, The University of Michigan, Educational Psychology--Research Design and Statistics Program (concerned with the problems of communication and interpersonal influence).

Pennsylvania Teaching Certificate, 1965.

Grants and Offices

U.S.O.E. Educational Research Training Grant (NDEA Title IV), 1966-1967.

University of Michigan Inter-Discipline Research Training Grant, 1967-1968.

Chairman, Board of Directors, Teacher Consultants Incorporated, a non-profit corporation chartered in the State of Michigan for the improvement of instruction, 1967-1970.

Associate Director, Center for the Study of Teaching, Syracuse University, 1968-1970.

Research Coordinator, School of Education, Syracuse University, 1969-1970.

President, Computerized Educational Services, Atlantic City, New Jersey, 1969 to present.

Syracuse University Representative--American Association of Colleges of Teacher Education, 1969-1972.

School of Education Representative to Board of Graduate Studies, Syracuse University, 1969-1972.

Associate Director, Office of Sponsored Programs, Syracuse University, 1970 - .

Teaching and Training Experiences

Philadelphia Public School System: Jones Junior High School, Philadelphia, Pennsylvania; part of the inner-city schools of Philadelphia, 1965.

Temple University:

Research Assistant: Project on Student Teaching; sponsored by the U. S. Department of Health, Education, and Welfare, Office of Education, Cooperative Research Program, 1965-1966; measuring the effects of behavioral training on the teaching behaviors of student teachers and master teachers (POST).

Observer Trainer: For POST in Interaction Analysis.

Assistant Trainer: Assisted in the training of the student and master teachers in Interaction Analysis.

Observer: Observed over a hundred teachers primarily in the Philadelphia inner-city schools.

Teaching Assistant: Secondary Education Methods Workshop, teaching general educational methods and interaction analysis.

Teaching Assistant: Interaction Analysis Workshops, one-week workshops in Interaction Analysis (directed by Dr. E. J. Amidon).

Teaching and Training Experiences (continued)

The University of Michigan:

Research Consultant: Office of Research Services, 1967-1968.

Teaching Fellow: Department of Educational Psychology.

Syracuse University:

Assistant Professor, teaching

(1) Doctoral level research methods course (Ed. 777).

(2) Graduate level course on the Application of the Computer in Education and Educational Research (Ed. 760).

New York, New York: Selected to attend the American Educational Research Association Workshop on "Research Management," February, 1967.

Carbondale, Illinois: Research Management Program--one-week program on management information systems and techniques.

Publications

Chicago, Illinois. Presented a paper at the American Educational Research Association Convention, "Programming Teacher-Pupil Interaction Patterns," 1966.

Los Angeles, California. Presented a paper at A.E.R.A. Convention, entitled "Observer Effects on Teacher Behavior," 1969.

Los Angeles, California. Symposium member: A.E.R.A., "The Effects an Observer Has on Teacher Evaluation," directed by Ned A. Flanders, 1969.

Los Angeles, California. Paper (co-authored with W. A. Weber), "Communication Patterns of Middle-Class Teachers with Middle and Lower-Class Students in Urban Schools."

Monograph: "The Role of the Observer and His Effects on Teacher Behavior," Occasional Papers, Oakland County, Michigan, fall, 1969.

Tom Rusk Vickery

Education: University of Florida, Gainesville, Florida; Ed.D., 1967
North Texas State University, Denton, Texas; M.Ed., 1965
Baylor University, Waco, Texas; B.A., 1957

Professional Experience

Assistant Professor, Syracuse University and Director, Environmental Studies Institute, 1969-
Assistant Professor, Northwestern University, 1967 to 1969
Research Assistant, University of Florida, 1965-67
Classroom teacher, Director of Student Activities, and Assistant to the Principal, Rider High School, Wichita Falls, Texas, 1961-65

Professional Papers

"The Belief Gap in Teacher Education," The Journal of Teacher Education, XVIII (Winter, 1967), 417-421. (With Bob Burton Brown)

"Descriptive Profiles of Beliefs of Teachers," Paper read at the Annual Meeting of the American Educational Research Association, New York, February, 1967 (With Bob Burton Brown)

"Empirical Evidence and Personal Consistency," Paper read at the Annual Meeting of the American Educational Research Association, Chicago, February, 1968 (With Bob Burton Brown)

"Research Design and Evaluation Processes," in The Tutorial and Clinical Approach: Its Conception and Organization, Robert P. Parker, Jr., and Lindley J. Stiles, editors. Evanston, Illinois: School of Education, Northwestern University, 1968.

"Assessment of Individual Development" and "Research Design and Evaluation Processes," in The Tutorial and Clinical Approach: Its Conception and Organization, Second Edition, Roy E. Howarth and Lindley J. Stiles, editors. Evanston, Illinois: School of Education, Northwestern University, 1969.

"Towards an Empirically Based Curriculum Theory: A Guide to Research," Paper read at the Annual Meeting of the American Educational Research Association, Minneapolis, March, 1970. (With DeLayne R. Hudspeth)

The Effects of Pollution on Man, edited by Tom Rusk Vickery and Daniel F. Jackson. Syracuse, New York: Syracuse University Press (in press).

LETTERS OF INTENT

SYRACUSE UNIVERSITY

SCHOOL OF EDUCATION | CENTER FOR THE STUDY OF TEACHING

410 HUNTINGTON HALL | SYRACUSE, NEW YORK 13210

May 19, 1970

Dr. Thomas Samph
Research Coordinator
School of Education
Syracuse University
Syracuse, New York 13210

Dear Tom:

The Model Elementary Teacher Education Program is just one of the many innovative programs at Syracuse University. This program represents an attempt at training new and innovative teachers who can meet the present and future needs of the educational community. This module-based program could serve as an internship program for students at all levels, to engage in the processes of research, development, demonstration/dissemination, and evaluation in a university context.

I would like to offer whatever support and manpower that is at my disposal to facilitate the design and final operation of a new and innovative program to train "Research, Development, Demonstration/Dissemination, and Evaluation Personnel in Education."

If programs like the Model Elementary Teacher Education Program are to be viable and the teachers it produces effective, then we need new patterns for training the individuals who will research, develop, demonstrate/disseminate, and evaluate its operation.

We look forward to an exciting cooperative effort in the design and hopeful operation of your program.

Sincerely,

Wilford A. Weber

Wilford A. Weber
METEP Project Director

WAW/jg

ERIE
EASTERN REGIONAL INSTITUTE FOR EDUCATION
635 JAMES STREET, SYRACUSE, N.Y. 13203
TELEPHONE
474-5321
AREA CODE 315

May 18, 1970

Dr. Tom Samph
Huntington Hall
150 Marshall Street
Syracuse University
Syracuse, New York 13210

Dear Dr. Samph:

This letter is to notify you of the interest of the Eastern Regional Institute for Education in participating in the developmental implementation of the cooperative research training program. We believe that our current program activity can be integrated with the proposed program. Our contribution to the program could take the form of some of the following activities: a) providing access to a wide variety of educational settings through ERIE's network of schools, b) utilizing skilled ERIE personnel who have been involved in curriculum development, dissemination, evaluation, and research, and c) availing trainees of the research questions and topics central to ERIE's mission.

Furthermore, ERIE has already begun to assist in the training of researchers. Several professors and graduate students in universities in New York State have been involved in conducting research in ERIE-affiliated network and laboratory schools along the dimension of curriculum installation, dissemination, evaluation, and research. We, therefore, see our involvement in the proposed project as being a natural and appropriate extension of our program activity.

There are, however, several limitations concerning ERIE's involvement. These are:

1. No formal allotment of ERIE staff can be assigned to the project prior to November 30, 1970. However, limited participation by key ERIE staff, including Richard Andrulis, Henry Cole, and John Herlihy, after June 30 and prior to November 30 will be possible.

2. ERIE school networks and research programs can be made available for the training of researchers under the project provided:

    a. the problems researched are related to current or planned ERIE program activity, and

    b. ERIE staff is involved in the planning and execution of the training and/or research conducted.

Vitae of key ERIE staff likely to become engaged in the project will be forwarded in the near future. Enclosed is a document entitled Research Into Process Curricula which outlines the current ERIE program activity and suggests many possible training activities for the proposed project.

Also enclosed is an evaluation plan prepared by a staff member of the Assessment Team. This evaluation plan exemplifies a typical training procedure that could be used with trainees. In part, training procedures would focus on the development and implementation of evaluation plans according to a logical, consistent, and systematic analysis of curricula programs under investigation at ERIE.

The wide variety of development and evaluation activities at ERIE would provide the prospective evaluator with a rich background of field experience. Also, the research activities of the Institute are generally more programmatic than those encountered in the typical university setting.

We look forward to participating with you in this proposed project.

Sincerely,

Richard C. Wallace Jr.

Richard C. Wallace, Jr., Ed.D.
Director

RCW:ac

Enclosures

SYRACUSE UNIVERSITY

ENVIRONMENTAL STUDIES INSTITUTE

1117 EAST GENESEE STREET | SYRACUSE, N.Y. 13210

May 18, 1970

Dr. Berj Harootunian
Dr. Thomas Samph

I would like to express interest in and commitment to a cooperatively developed design for innovative patterns for training research, development, demonstration/dissemination and evaluation personnel. In doing this, I speak for the Environmental Studies Institute as Co-Director and as an assistant professor of curriculum.

The Environmental Studies Institute (ESI) exists solely for the purpose of attacking environmental pollution through education. In the process of developing materials and training teachers (both on campus and in-service), ESI has rather specific evaluation tasks which could be helpful as part of the proposed training program. We are concerned to teach students the facts of our ecosystem as well as the kinds of concerns about the ecosystem that will result in a different life style.

Because there are no existing instruments or strategies to measure change in these ways, we are now working with the Community Psychology program to develop them. Sharing our efforts to solve these problems should provide valuable training experiences.

In addition to my work with ESI, I am presently engaged in the study of social action strategies used on the thirteen college campuses in this five county area. During Earth Week we collected data about the ways groups of college students attempted to produce social change and the consequences thereof. The campus strikes of the last two weeks have provided a second opportunity to study these campuses, but with a different set of issues. These continuing efforts provide further training opportunities for the proposed program.

As assistant professor of curriculum, my research activities include the evaluation of the appropriateness of educational objectives for a specific population and of the appropriateness of given instructional strategies and materials for a specific objective. This kind of evaluation is all too often neglected in funded instructional programs, and certainly I would want to include training in this kind of evaluation in our own design.

Sincerely,

Tom Rusk Vickery

Tom Rusk Vickery
Director

Tompkins-Seneca-Tioga BOARD OF COOPERATIVE EDUCATIONAL SERVICES
Tompkins County Airport
Ithaca, N.Y. 14850
Phone: ~~273-3979~~ 257-1555

IRVIN E. HENRY
District Superintendent
EDWARD WITKO
Assistant Superintendent

December 11, 1970

Dr. Berj Hartoonian
Syracuse University
Center for Evaluation & Research Training
Huntington Hall
Syracuse, New York 13210

Dear Dr. Hartoonian:

After reviewing the CERT program, we would like to participate in the newly developed consortium.

Due to the nature of our programs, including special state aided projects and federally aided projects, we feel that the evaluation program needs to be strengthened to provide more hard data to indicate the level of performance of individuals in programs and to set forth criteria to assess the present program.

Sincerely,

Richard H. Solomon
Richard H. Solomon
Director
Federally Aided Projects

RHS:tcl

JAMESVILLE-DEWITT CENTRAL SCHOOLS

HAROLD J. RANKIN, SUPERINTENDENT

FRANK A. BISHOP, ASST. SUPERINTENDENT
ANDREW C. BIONDOLILLO, ASST. SUPERINTENDENT

BOARD OF EDUCATION OFFICE
EDINGER DRIVE
DEWITT, NEW YORK 13214
TELEPHONE 446-0550

May 15, 1970

Dr. Thomas Samph
Syracuse University
Syracuse, New York

Dear Dr. Samph:

The Jamesville-DeWitt Central School District does hereby lend its support and offers its resources in participation with Syracuse University for proposal No. 70-12 - "To Design New Patterns for Training Research, Development, Demonstration/Dissemenation, and Evaluation Personnel in Education."

If we can be of any further assistance in this matter, please contact us.

Very sincerely yours,

Harold Rankin

Harold J. Rankin
Superintendent of Schools

HJR:rr

DEPARTMENT OF ANTHROPOLOGY
943 SOUTH CROUSE

Memorandum

To: Tom Samph
Berj Harootunian
Date: May 15, 1970
Subject: Training Proposal

The Department of Anthropology is keenly interested in the proposed research to "design new patterns for training research, development, demonstration/dissemination, and evaluation personnel in education." We see this program as an excellent opportunity to contribute to the creation of imaginative, realistic, and new educational phenomena. Because of this, Professor Mangin and myself are willing to make a firm committment to work on this research design within the context of this program.

Barton M. Schwartz

Barton M. Schwartz
Chairman

BMS/jhd

CANASTOTA CENTRAL SCHOOLS
CANASTOTA, N.Y. 13032

DONALD F. RIELLE
SUPERINTENDENT

ADMINISTRATIVE OFFICES
302 ROBERTS STREET

May 15,1970

Dr. Thomas Samph
School of Education
Syracuse University
Syracuse,New York

Dear Dr. Samph:

The Canastota School District is interested in pursuing a study with Syracuse University regarding new patterns for training research, development, demonstration/dissemination, and evaluation personnel in education.

We intend to do all possible to join with you and the other groups from Syracuse University, the public schools,ERIE and SDC.

Thank you for the opportunity to work with you on this worthwhile project.

Sincerely,

Donald Rielle

Donald F. Rielle
Superintendent of Schools

DFR:an

Finger Lakes Region

EDUCATIONAL PLANNING CENTER

BOX 118 • HOMER, NEW YORK 13077 • PHONE: (607) 749-2604

May 15, 1970

Dr. Thomas Samph
Assistant Professor
Teacher Preparation
102 Waverly Avenue
Syracuse University
Syracuse, New York 13210

Dear Dr. Samph:

We are aware of your intent to submit a proposal for evaluation activities in this region. We are interested in participating in the request proposal and are willing to take an active part in supporting and participating in the evaluation activities and processes should this proposal be realized.

Accept this communication as our commitment to work with your agency in the evaluation project to be submitted to the Office of Education.

Sincerely yours,

Tom Schurtz

Tom Schurtz
Planner

TS:mc

SDC SYSTEM DEVELOPMENT CORPORATION
5720 Columbia Pike, Falls Church, Virginia 22041

May 18, 1970

Dr. Thomas Samph
Syracuse University
102 Waverly Avenue
Syracuse, New York 13210

Dear Tom:

This letter is a formal acknowledgment of our interest in working with Syracuse University on a Project to Develop Course Content and Instructional Materials for the Preparation of Educational Research, Development, Diffusion, and Evaluation Personnel (as defined in USOE RFP 70-27, issued May 4, 1970).

SDC's association with Syracuse University and other organizations in the Teacher Education Protocooperative has represented, we believe, the beginning of a highly significant educational arrangement. We are anxious to continue cooperating with Syracuse on a variety of educational projects. Our interest and experience in educational planning and in a broad spectrum of educational research, development, diffusion, and evaluation activities make us well qualified to participate in this particular project.

Several members of our staff would be available for selection to participate with you in the project during its period of performance, on a sub-contracting basis similar to that we entered into with you for the Phase II Model Teacher Education Project. Representative resumes are enclosed.

We're looking forward to working with you!

Sincerely yours,

W. P. Kent

William P. Kent
Head, Washington Staff
Education Systems Department

WPK/jrh
Enclosures

A-3064 (5/68)

NISKAYUNA PUBLIC SCHOOLS

NISKAYUNA

OFFICE of RESEARCH and DEVELOPMENT
STORY AVENUE
NISKAYUNA, NEW YORK 12309

JOSEPH H. OAKEY
Director

Telephone
(518) 393-6651

May 18, 1970

Dr. Thomas Samph
Center for the Study of Teaching
Syracuse University
102 Waverly Street
Syracuse, New York

Dear Dr. Samph:

This is to indicate the desire of the Niskayuna Public Schools to enter into a cooperative effort with Syracuse University in the development of a proposal to train research and evaluation personnel in education.

The Niskayuna contribution to the program will be to provide, through its office of research and development, a variety of field experiences for the program trainees as well as assistance in the development and writing of a proposal.

The experiences to be provided are research and evaluation opportunities in a broad range of ongoing programs in the schools as well as in some of the emerging experimental programs. In these experiences the trainees will be expected to work with various Niskayuna educational personnel in the design, application, interpretation and reporting of research and evaluation programs that will be of assistance in improvement of the school system as well as providing on site training experiences for the trainees.

We hope that this cooperative program will produce mutually beneficial outcomes for both agencies, and will continue to work toward those ends.

Sincerely yours,

Joseph H Oakey

Joseph H. Oakey

JHO/gm

SURC Educational Policy Research Center at Syracuse

May 20, 1970

Dr. Berj Harootunian
Teacher Preparation
Room 423 Huntington Hall
150 Marshall Street
Syracuse, New York 13210

Dear Dr. Harootunian:

This is to express our interest in the Consortium Proposal to Design New Patterns for Training Research, Development, Demonstration/ Dissemination and Evaluation Personnel in Education as outlined by Dr. Tom Samph, Center for the Study of Teaching.

We look forward to joining such a consortium for the six month design phase in which our concern would be to prepare a training curriculum on future cognition.

Sincerely,

Warren L. Ziegler

Warren L. Ziegler
Acting Director

WLZ:sb

Syracuse University Research Corporation, 1206 Harrison Street, Syracuse, New York 13210 tel: 315-477-8439

SYRACUSE UNIVERSITY

CENTER FOR INSTRUCTIONAL COMMUNICATIONS

121 COLLEGE PLACE | SYRACUSE, NEW YORK 13210

18 May 1970

Dr. Thomas Samph
School of Education
Syracuse University
Syracuse, New York 13210

Dear Doctor Samph:

The faculty and staff of the Center for Instructional Communications endorses the proposal to develop a cooperative design for the preparation of specialists in the various phases of educational research. Our staff is committed to the concepts of the proposal and will be available to work with you during the implementation phase.

As you know the important support services for research training are available through our Center. We are ready to provide not only personnel but material support as well.

Sincerely,

Donald P. Ely

Donald P. Ely
Director

DPE/jad

TELEPHONE 315 | 476-5541 | EXTENSION 2158

SYRACUSE UNIVERSITY

DEPARTMENT OF SOCIOLOGY

MEMORANDUM

TO: Professors Tom Samph and Berj Harootunian DATE: May 14, 1970

FROM: Charles V. Willie, Professor and Chairman
Department of Sociology

RE: Commitment of the Department of Sociology to participate in a program of training researchers in education

The Department of Sociology at Syracuse University would be pleased to participate in a program designed to train researchers in education. We consider the educational institution to be one of the major systems in our society today and are most interested in discovering new and better ways to make it more effective.

Some of the key people in our Department who might have an interest in this activity are the following:

a. Dr. Arline Sakuma who received her Ph.D. degree at the University of Washington. She has taught in public school, is currently serving as assistant director of the study of black students on white college campuses, has served as a consultant to the Educational Policies Research Center at Syracuse University and is a fine researcher with strong interests in social psychology and the sociology of education.

b. Dr. William McCord who is a Harvard University Ph.D. He has a strong social science interdisciplinary interest and has a joint appointment in Sociology and in Social Science in the Maxwell School. He also has a comparative perspective internationally and knows a good deal about the black ghetto in the United States. One of his books is on life styles in the black ghetto. Also, Professor McCord knows much about youth and deviancy. He studied and has written extensively about juvenile delinquency.

c. Dr. Louis Kriesberg who received the Ph.D. degree from the University of Chicago. He has had extensive experience in poverty research and is an excellent researcher, using survey methods. He is a former staff member of the National Opinion Research Center. _Mothers in Poverty_ was published this year by Professor Kriesberg. He has a substantial interest in social conflict and has published studies about the aspirations and achievement in school of children in fatherless families.

d. Dr. Howard Taylor, Jr. who received his Ph.D. from Yale University. He is our chief statistician and methodologist on the faculty. He has knowledge of the use of computers and is an outstanding scholar in small group research which could have beneficial findings for schools. His excellent book, _The Small Human Group_, will be published soon.

e. Dr. Charles Willie who received his Ph.D. from Syracuse University. He is interested in school-community relations and has authored several articles on this subject for the Journal of Negro Education. His book on the family life of black people is scheduled for publication soon. He has conducted research into juvenile delinquency, poverty, and health, as well as community organization. Several articles have been published in Integrated Education and the Journal of Urban Education. He is currently director of a study of black students on predominantly white college campuses and has conducted studies of school integration.

These and other faculty in the Department of Sociology could be of great help as participants in a training program for educational researchers.

Several research projects currently underway in the Department of Sociology are:

1. A study of black students on white college campuses from the black student's point of view. (Brief description enclosed.)
2. A study of Bohemianism and social structure by Professor Ephraim H. Mizruchi.
3. A study of the social organization of a research team investigating NASA by Professor William Pooler.
4. A study of the origins of the Nigerian-Biafra war by Professor William McCord.
5. A study of technology and society by Professor Manfred Stanley.

There is a need to study education (1) in terms of preparations and adaptations of clients, (2) as a process, and (3) as a social institution in relation to other institutions in the community and in the nation-state.

Obviously, some of the studies which we have begun on the adaptation of black students in predominantly white colleges need to be carried forward. Comparative information is needed on white students in predominantly black colleges, black students in predominantly black colleges, and white students in predominantly white colleges. The adaptations of the students should be studied in conjunction with structures and processes within the institutions.

The function of the school as a certifying institution for other institutions in society needs to be explored in terms of the implications of this for schools especially the impact of this function on education, grading, etc. and the limitations this function imposes upon the freedom of the school to innovate and change for the purpose of performing its educational function better. Whether or not the school should assume a certifying function for society is problematical and should be fully explored.

The issue of whether or not self-concept or mastery over environment is a more crucial variable in learning and which, if any, is more or less important for different cultural groups should be better researched. The Coleman report suggests that mastery of environment may be more important for black than white children and that self-concept may be more important for white than black children. These hypotheses should be thoroughly tested.

The issue of community control of educational facilities should be examined to determine the assets and liabilities of centralized and decentralized systems with reference to learning, power, etc.

Courses taught in our Department of possible interest to you include:

Urban Sociology which is focused on the social organization of urban areas but fall semester 1970 will be concerned with education and its relationship to other organizations in the city.

Complex Organizations

Stratification

Ethnic Relations

Sociology of Work which includes a look at the professions and professional organizations.

CVW:gv

SYRACUSE
CITY SCHOOL DISTRICT

CENTRAL OFFICES
409 West Genesee Street
Syracuse, New York 13202

May 15, 1970

Dr. Thomas Samph
School of Education
Huntington Hall
Syracuse University
Syracuse, New York

Dear Dr. Samph:

The Syracuse City School District would be interested in working with Syracuse University and other public schools in cooperatively developing a proposal to "design new patterns for training research, development, demonstration/dissemination, and evaluation personnel in education."

It is understood that our participation would be on a consultative basis using various personnel concerned with this area on a part-time basis. It is further understood that there will be no costs involved for the Syracuse City School District and that any personnel servicing on a consultant basis who need substitutes to cover during the time of consultation will be paid for by other than Syracuse City School District funds.

It has been our experience in the past few years that there is indeed a crying need to develop personnel and instruments to meaningfully measure activities, materials, procedures, and methodologies currently operating on experimental basis in the schools. The planning period, as I understand it, runs from June 18 to December 18, 1970.

Sincerely,

Rudolph A. Zieschang

Rudolph A. Zieschang
Director, Curriculum Services

RAZ:eam
cc: Dr. Edwin E. Weeks, Jr.
Dr. Gerald A. Cleveland
Mr. Hanford Salmon
Mr. Arnold Berger
Mr. Sidney Johnson
Mr. David Sine
Mr. Harry Balmer

SURC Policy Institute
Office of the Chairman

May 14, 1970

Professor Thomas Samph
408 Huntington Hall
Marshall Street
Syracuse University

Dear Professor Samph:

It is my understanding that you and some of your associates in the School of Education are planning to submit a proposal for the training of educational researchers--this, in connection with an RFP received from the Office of Education.

This is simply to state that the Policy Institute of the Syracuse University Research Corporation which is fairly deeply engaged in various kinds of educational research, would be happy to cooperate with you in designing and carrying out a major endeavor in this important field.

I am attaching a list of people from the Policy Institute itself who might have an interest in cooperating with you. I am sure you will want to get a similar list as well from the Educational Policy Research Center under the direction of Tom Green and Warren Zeigler.

With warm personal regards,

Sincerely,

Stephen K. Bailey
Chairman

SKB:rvh
Encl. (5)

Syracuse University Research Corporation, 723 University Avenue, Syracuse, New York 13210 tel 315-477-8688

SYRACUSE UNIVERSITY

CENTER FOR RESEARCH AND DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

160 MARSHALL STREET | SYRACUSE, NEW YORK 13210
TELEPHONE 315 | 476-5541 | EXTENSION 2298
***Dr. William J. Meyer*, Director**

May 22, 1970

Dr. Thomas Samph
Research Coordinator
School of Education
Syracuse University
Syracuse, New York 13210

Dear Dr. Samph:

The Early Childhood Education Center is committed to the development of new knowledge and the translations of this knowledge into prototypic materials and programs.

Clearly, these efforts are consistent with the proposed training program and could contribute to the overall planned training effort.

I would like to offer whatever contributions our effort can make to your planning efforts.

Sincerely yours,

William J. Meyer

William J. Meyer, Director
Early Childhood Education Center

WJM:NER